



GENDER DIFFERENCES IN SMS CODE-SWITCHING BY LEBANESE UNDERGRADUATES

Loubna Bassam

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LOUBNA BASSAM

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DOCTORAL THESIS



UNIVERSITAT ROVIRA I VIRGILI

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DOCTORAL THESIS

Supervised by
Dr. Anthony Pym

Intercultural Studies Group



UNIVERSITAT ROVIRA I VIRGILI
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2017

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I hereby certify that the study *Gender differences in SMS code-switching by Lebanese undergraduates*, presented by Loubna Bassam for award of the degree of Doctor, has been carried out under my supervision at the Department of English and Germanic Studies of the Rovira and Virgili University and meets all legal requirements.

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Abstract

Lebanese society has been always known for its multicultural as well as multilingual interactions, and code-switching has long been a unique feature and natural product of this multilingualism. This study explores gender differences in code-switching in the SMS messages of Lebanese students from different socioeconomic and religious backgrounds. It also surveys possible threats to Arabic that come about as a result of this code-switching, mostly characterized by use of Romanized script. With the advent of the globalization associated with various modes of technology, young people have adopted the trend of writing Arabic in Latin characters in social media, and this is part of their code-switching.

A corpus of 1680 SMS messages was collected from 58 undergraduates: 34 women and 24 men; there were 1013 messages from women and 667 from men. Qualitative and quantitative analyses were conducted; a questionnaire and an interview were administered.

The research shows that women code-switch significantly more than men. In addition, there are clear differences between men and women in terms of the frequency of switches in their messages, in the percentage of Arabic, English, French and other languages in their code-switching messages, and in the percentages of languages used in the messages that have no code-switching. This study also investigates gendered language in terms of intra- and inter-generational code-switching, social class, and religion. The findings show that all of these variables are intertwined with gender differences to constitute a unique sociolinguistic phenomenon.

The most prominent finding would thus be the inherent connection between the presence of women and all the linguistic features that have been analyzed.

This study also indicates that students have adopted the Romanized script in almost all their SMS messages as well as in other social media; most of them rarely use the Arabic script. Accordingly, the language of SMS messages indicates how endangered the Arabic language is nowadays, at least in Lebanon.

This study tackles many novel areas of research. It could be the only sociolinguistic study that deals with gender differences in SMS code-switching in terms of age, social class, and religion. Further, the study is expected to add to knowledge of written code-switching: the findings will hopefully fill a gap in studies on code-switching between Arabic and English in computer-mediated communication, on the one hand, and on gender differences in SMS code-switching, on the other.

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Resumen

La sociedad libanesa ha sido siempre conocida por sus interacciones multiculturales y multilingües, y la alternancia lingüística (*code-switching*) ha sido durante mucho tiempo una característica propia y producto natural de este multilingüismo. Este estudio explora las diferencias de género en la alternancia lingüística en los mensajes SMS de estudiantes libaneses de diferentes orígenes socioeconómicos y religiosos. También examina las posibles amenazas a la lengua árabe que surgen como resultado de esta alternancia lingüística, principalmente caracterizada por el uso de la escritura romanizada. Con la llegada de la globalización asociada a la adopción de diversos modos tecnológicos, los jóvenes han adoptado la tendencia de escribir árabe en caracteres latinos en las redes sociales, como parte de su alternancia lingüística.

Se recolectó un corpus de 1680 mensajes SMS de 58 estudiantes universitarios: 34 mujeres y 24 hombres. Del total, 1013 mensajes fueron enviados por mujeres y 667 por hombres. Se realizaron análisis cualitativos y cuantitativos, y también se administraron cuestionarios y entrevistas.

Los resultados muestran que las mujeres practican la alternancia lingüística significativamente más que los hombres. Además, hay diferencias claras entre hombres y mujeres en cuanto a la frecuencia de las alternancias lingüísticas, en el porcentaje del árabe, inglés, francés y otros idiomas en sus mensajes, y en los porcentajes de idiomas utilizados en los mensajes que no tienen alternancia lingüística. Este estudio también investiga el lenguaje de género en términos de alternancia lingüística intra- e inter-generacional, clase social y religión. Los hallazgos muestran que todas estas variables se entrelazan con las diferencias de género para constituir un fenómeno sociolingüístico único.

El hallazgo más destacado sería, por tanto, la conexión inherente entre la presencia de las mujeres y todas las características lingüísticas que se han analizado en este estudio. Este estudio también indica que los estudiantes han adoptado la escritura romanizada en casi todos sus mensajes SMS, así como diferentes aspectos de las redes sociales. La mayoría de ellos rara vez utilizan la escritura árabe. En consecuencia, el lenguaje de los mensajes SMS indica que la lengua árabe está en peligro hoy en día, al menos en Líbano.

Esta investigación aborda muchas nuevas áreas de investigación. Podría ser el único estudio sociolingüístico que se ocupa de las diferencias de género en la alternancia lingüística en los mensajes SMS en términos de edad, clase social y religión. Además, se espera que este estudio aumente el conocimiento sobre la alternancia lingüística escrito: se espera que los resultados llenen el vacío en los estudios sobre la alternancia lingüística entre el árabe y el inglés en la comunicación mediada por ordenador, por un lado, y las diferencias de género en la alternancia lingüística en los mensajes SMS por el otro.

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Resum

La societat libanesa ha estat sempre coneguda per les seves interaccions multiculturals i multilingües, i la alternança lingüística (*code-switching*) ha estat durant molt temps una característica única i producte natural d'aquest multilingüisme. Aquest estudi explora les diferències de gènere en la alternança lingüística dels missatges SMS d'estudiants libanesos de diferents orígens socioeconòmics i religiosos. També examina les possibles amenaces a la llengua àrab que sorgeixen com a resultat d'aquesta alternança lingüística, principalment caracteritzat per l'ús de l'escriptura romanitzada. Amb l'arribada de la globalització associada a adoptar diferents tipus de tecnologia, els joves han adoptat la tendència d'escriure l'àrab amb caràcters llatins en les xarxes socials, com a part de la alternança lingüística.

Es va recollir un corpus de 1680 missatges SMS de 58 estudiants universitaris: 34 dones i 24 homes. Del total, 1013 missatges van ser enviats per dones i 667 per homes. Es van realitzar anàlisis qualitius i quantitius, i també es van administrar qüestionaris i entrevistes.

Els resultats mostren que les dones canvien de llengua significativament més que els homes. A més, els homes i les dones també han revelat distincions clares pel que fa a la freqüència de les alternances lingüístiques, el percentatge d'àrab, d'anglès, de francès i d'altres idiomes en els seus missatges i els percentatges d'idiomes utilitzats en els missatges que no tenen alternança lingüística. Aquest estudi també investiga el llenguatge de gènere en termes d'alternança lingüística intra- i inter-generacional, classe social i religió. Les troballes mostren que totes aquestes variables s'entrellacen amb les diferències de gènere per constituir un fenomen sociolingüístic únic.

La troballa més destacada seria, per tant, la connexió inherent entre la presència de les dones i totes les característiques lingüístiques que s'han analitzat en aquest estudi. Aquest estudi també indica que els estudiants han adoptat l'escriptura romanitzada en gairebé tots els seus missatges SMS, així com diferents aspectes de les xarxes socials. La majoria d'ells poques vegades utilitzen l'escriptura àrab. En conseqüència, el llenguatge dels missatges SMS indica que la llengua àrab està en perill avui dia, almenys al Líban.

Aquesta investigació aborda moltes noves àrees d'investigació. Podria ser l'únic estudi sociolingüístic que s'ocupa de les diferències de gènere en el canvi de codi en els missatges SMS en termes d'edat, classe social i religió. A més, s'espera que aquest estudi augmenti el coneixement sobre la alternança lingüística escrita: els resultats haurien d'omplir el buit en els estudis sobre la alternança lingüística entre l'àrab i l'anglès en la comunicació mediada per ordinador, duna banda, i les diferències de gènere en la alternança lingüística en els missatges SMS per l'altre.

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To Mahdi

My dearest son,

My courageous son,

I know you wanted me to accomplish this. I hope you are proud of me now as I have been always proud of you. I have learned from your persistence, your patience and your challenge to conquer whatever obstacles life threw at you.

I will forever be thankful to God for gifting me with you.

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I am very grateful and privileged for joining an amazing group, the Intercultural Studies Group at the University of Rovira i Virgili that granted me the opportunity to meet enormous scholars whom I was honored to learn from during the research seminars I attended at URV. This has formulated my research path and constituted my first steps towards the world of academia. Being part of the Intercultural Studies Group has been one of the richest experiences of my life that has further introduced me to wonderful people during my short visits to Tarragona over the past few years; some of whom have become dear friends and have been always ready to offer their sincere help. Special thanks go to Nune and Ester.

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Thank you very much, everyone!

Declaration

I, Loubna Bassam, hereby declare that, except where specific reference is made to the work of others, the contents of this text are original and have not been submitted in whole or in part for consideration for any other degree or qualification in this or any other university. This research is my own work and contains nothing that is the outcome of work done in collaboration with others, except as specified in the text.

June 5, 2017.

A handwritten signature in black ink, consisting of a long horizontal stroke with a vertical line crossing it near the right end, and a small dot above the vertical line.

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Chapter 1. Introduction

Over the last few years I have been wondering about the serious deterioration in my students' use of Arabic. I have been teaching for years and I can really tell the difference in the quality of Arabic, even that of Masters students of translation, whose knowledge of Arabic is supposed to be better than that of undergraduates. I do not give my present students the same translation exams I used to give my students ten years ago; on the contrary, I have to compromise on the quality to make it fit the current students' linguistic competence. At the same time, I increasingly observe the students' dependence on mobile phones, certainly at the university but in computer-mediated communication in general. This could be the main reason behind this study: I have always wanted to know about the possible threats to the Arabic language that could be due to the younger generation's reliance on technology and the language associated with it.

The different ways young people communicate with each other have always attracted my interest and aroused my curiosity. In particular, I began noticing gender differences in communication between young men and women. When talking on the phone, my son would mostly use Arabic with his friends, unlike my daughter who would mostly use English or code-switch whenever on the phone with her friends. I have repeatedly questioned the distinctions in their text messages; there were also differences in terms of code-switching as well as language use in general. With the advent of the globalization associated with embracing various modes of technology, young people have adopted the trend of writing Arabic in Latin characters in social media. This new way of writing is not the only thing young people have carried with them into their new techworld: their code-switching has also accompanied them.

These speculations brought me into a world that most people probably know very little about: the young people's world of communication technologies. Thus, out of my concern for the Arabic language and my curiosity about gender differences in communication, the idea of this research was born. The process of discovery then started from work on gender differences in computer-mediated communication, particularly SMS messages, and in turn, how technology might affect the younger generation's language use.

When I first thought of SMS messages, it was because they seemed an archetypal image of young people's genuine communicative practices. The whole journey began with a mini pilot study. The corpus consisted of a set of text messages by two undergraduates: my daughter and

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her male colleague. I started to investigate those SMS messages and quickly discovered a mine of information about gender differences and language practices that did not show up on the surface level. There were new languages, new scripts, creativity, the dynamic role of women, complex relations between generations, and certain intra- and inter-gender differences. Consequently, I decided to conduct a large-scale research that included a relatively good number of SMS messages by young men and women from different Lebanese universities, in order to paint a fuller picture of this complex social phenomenon. The results confirmed my previous findings and simultaneously suggested other new areas of investigation; there were differences within different social classes, and a certain role being played by religion.

This study thus aims to investigate gender differences in code-switching in the SMS messages of Lebanese students from different socioeconomic and religious backgrounds. It also surveys the possible threats to Arabic that come about as a result of this code-switching, mostly characterized by use of Romanized script.

1.1. Lebanon: a multilingual identity

Lebanon is a diverse multilingual country, a unique mixture of local and international languages and cultures. It has always been known for its multiculturalism, and multilingualism has thus shaped the language use of most Lebanese people. In particular, code-switching has become one of the most distinctive features of Lebanese society. It is common for Lebanese people to say “Hi, kifak, ca va?” (Hi, how are you?, are you ok?) when they meet each other, using three languages – English, Arabic, then French – in the one short greeting. This has become the “typical greeting” of Lebanese people. Multilingualism is something you see, hear, feel, speak, and even touch wherever you go in Lebanon. It is not something practiced exclusively by one group of Lebanese people rather than another; a person does not have to be well-educated or have a great command of languages to code-switch; all what you need is to be Lebanese.

Lebanon is a cultural mosaic republic where East and West have met to grant this small country a unique cultural identity. It has been shaped by its rich history and ethnic diversity for thousands of years. As Constantine (1995: 114) puts it, “[t]o a certain degree it is possible to describe Lebanon as a multi-cultural, multi-linguistic, multi-religious and multi-ethnic country”. It is one of the smallest Middle Eastern countries, located on the Mediterranean, on the border of

Europe. For Malaspina (2009: 8), “it is lodged between historic Muslim and Christian cultures. Lebanon has never fully integrated into either Europe or the Arab world”.

All of these factors have interacted to characterize one Lebanese code-switching. Arabic, English, and French are used alternately by Lebanese people of different ages, social classes, ethnic or religious backgrounds. Thonhauser (2000: 49) says if you ask “[w]hat is the language of Lebanon? Most Lebanese would have a straightforward answer: Arabic. But then the distinction between spoken and written Arabic would be added quickly, and if the conversation went into further detail, English and French as languages of education and business would certainly be included”. Esseili (2011: 9) describes the Lebanese linguistic situation as the “so-called conflict between Lebanese Arabic and Modern Standard Arabic; Modern Standard Arabic and foreign languages; and English and French”. Bacha and Bahous (2011: 1321) say that “the language and identity situation [in Lebanon] is quite a complex one. It is not unusual for a Lebanese national to have Armenian as a first language, Arabic as a second, English a third, French a fourth and possibly a knowledge of one other language such as Spanish or German”. They believe that the “multicultural make up of Lebanon makes it a place similar to the US in that we can see it as a possible ‘melting pot’; but unlike the West, the people from each community strongly abide by their way of life and traditions” (Bacha and Bahous 2011: 1324). Grosjean (1982: 149) reports a trilingual from Lebanon as follows: “I have never seen [code-switching] practiced to such an extent in any other culture”. He notes that “French monolinguals who overhear trilingual code-switching of this type ask, ‘which language are you speaking? It often sounds like French, but it isn’t” (1982: 149).

A vivid picture of Lebanese code-switching is given in Mortada (2015), who asks “Is Beirut [the capital of Lebanon] the codeswitching capital of the world?”. The report describes Mortada’s experience at an organic farmers’ market in downtown Beirut where both “buyers and sellers speak a mishmash of languages, usually Arabic and English or French” and which is, according to her, “one of the characteristics that defines life in Beirut for visitors and for many Lebanese”. Mortada (2015: Unpaginated) notes that “[i]n Lebanon, hellos, thank-yous and how-are-yous are often said in French. Arabic is the core language, but kids are taught in French or English at school”. Then Mortada presents Dimachki, a Francophone Lebanese linguist, who describes this mixture of languages as the “Lebanese mother tongue”: once you have it, it becomes “part of your identity in a way [...] Or this is what you’re claiming to be part of your

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identity”. Dimachki believes that people’s way of code-switching in Beirut is unique and that “it’s not necessarily determined by age or ethnicity” and that “it’s not relegated to home or school or the juice stand at the market”. According to Dimachki, multilingualism is rather a life style that is present wherever you go: “Street signs are in Arabic and French, government websites often include English. Menus in lots of restaurants or cafes are in all three languages, and you’ll hear people switching between them”. Dimachki believes this is what distinguishes Beirut from other cities such as Barcelona, Jerusalem or Los Angeles: “A person in LA might speak Spanish at home and English at work. But in Beirut, they’re all Lebanese, talking with Lebanese, so why all this code switching? [...] it’s a way of speaking in a sense” (in Mortada 2015: unpaginated).

1.2. The history of languages in Lebanon

The three major factors that have shaped Lebanese multilingualism are the Western missionaries that arrived in Lebanon in the 18th and 19th centuries, French colonization (1923-1946), and the rise of English as a globalized language with its worldwide controlling role in technology, communication, commerce, business, and international relations. This is not to forget other factors represented by “the establishment of schools during the Ottoman occupation, the foundation of the Maronite School in Rome in 1584 and the Congress of Louwaizeh in 1736” (Constantine 1995: 115). The competing French Jesuit and American Protestant missionaries established several schools and two universities, the Syrian Protestant College in 1866, which later became the American University of Beirut, and Saint Joseph University in 1875 (Shaaban and Ghaith 2003: 54; Thonhauser 2000: 50). During the French mandate (1920-1943), French became an official language in Lebanon alongside Arabic (Diab 2009: 102; Suleiman 2003: 205). With the independence of Lebanon in 1943, Arabic became the only official language, although French and English continued to play their essential roles in Lebanese education and cultural life. Nowadays, French and English are considered the secondary languages of Lebanon but the main instructional languages in most of the schools and universities. We might call them the “semi-official” languages of Lebanon. Bacha and Bahous (2011: 1321) believe that nowadays “the use of French and English over Arabic in educational, social and business circles

is becoming more evident; a reflection and result of the receptiveness of the Lebanese to Western culture and their travels abroad”.

1.2.1. Arabic

According to Article 11 of Lebanon’s Constitution, Arabic is the official language of Lebanon. The Arabic language of Lebanon is of two types, Modern Standard Arabic and Lebanese Spoken Arabic. The first type is the main language of government institutions and is only used in formal settings such as the reading and understanding of religious texts, education, newspapers and magazines, as well as the formal broadcast media. The second type is used for communication among Lebanese people; it is the dominant spoken language and it is part of a larger category called Levantine Arabic.

1.2.2. French

The French language has always been an axis of Lebanese culture, penetrating and coloring almost every aspect of its social fabric. Suleiman summarizes the relation between French and Lebanon as follows:

Support for French on the Lebanese cultural scene is generally linked to conceptualizations of Lebanese national identity which propel it outside the Arab orbit and lodge it in the sphere of a Western or non-Islamic Mediterranean culture. Under this interpretation, Lebanon is in the Middle East but is not exclusively of it. Lebanese national identity is therefore not purely Arab or purely Western, but must partake of both to remain genuinely authentic and true to its roots. The presence of French is seen now as part of a long-established multilingual tradition in Lebanon which takes the country back to the times of the Phoenicians, for whom multilingualism was a fact of life [...] Educational and other contacts with France and the presence of French in Lebanon are said to predate the French Mandate [...] The presence of French in Lebanon was also justified on what appeared to be pragmatic grounds. It was argued that, by arming itself with French, Lebanon can fulfil its civilizing mission in and to the East – read the Arab

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world – by interpreting the West to the Arabs and by advocating Arab causes in the West on behalf of the Arabs. (Suleiman 2003: 205)

In his controversial book *Le Bilinguisme arabe-français au Liban* (1962), Abou dealt with the same issues but from a different point of view. Some of his arguments have been summarized by Sayigh (1965: 126-7) in the following terms: French is the symbol of Western civilization, which is in turn the representative of world civilization. On the other hand, Lebanon, privileged by its location, is the door through which Arab civilization can access Western civilization and be promoted. French is thus not only the vital to Lebanese reality; it constitutes a spiritual need for its community and the solution to its divided society. Moreover, French has been always a component of the Lebanese culture and history, and it is only by preserving this role that we can preserve the cultural status of Lebanon as well as that of its Arab neighbors.

However, over the last few decades, French has been reeling due to the dominance of English, which has become the first foreign language in almost all aspects of life in Lebanon. In business, education and technology, English is perceived as being more practical and beneficial than any other language.

1.2.3. English

Due to the accelerated globalization process, the English language has become a lingua franca that brings many societies in the world together: it is the language of technology, science, and education. Lebanese society is no exception: an increasing number of English words have become essential in the language of young people, even those who are from Francophone backgrounds. These days in Lebanon, to manage well or to get a decent job, you should be armed with a good command of the English language. Knowing French would be an advantage but English is a must; everything is globalized. I dare say that today you need English to “survive” in Lebanon.

Diab (2009: 102- 3) attributes the spread of English to economic reasons, mainly due to “the international influence of the United States and the growing importance of the English language in international business, science, and technology”. In addition to these well-known factors, English has also become, like French, a language of prestige for educated people. This

can be seen in terms of what Simpson (2007) says about how learning English affects the “linguistic identity of speakers”. Simpson believes that in some countries English has a minimal effect on people’s view of the world and way of thinking. However, in some countries there are elite groups who might “function almost fully in English and are perceived as considerably detached from other members of their ethnic groups and may not be not proficient in the national language of their country” (Simpson 2007: 16). Esseili (2011) believes that the growth of English as universal language has produced “three responses”, all of which are applicable to the effects that have accompanied the spread of English in Lebanon. The first is embodied in the “English fever” where individuals, institutions, and governments are rushing to learn, teach, and promote English in order to compete with the rest of the world”. The second response is represented by the “cautiousness and fear of the doom awaiting other languages, cultures, and national identities as a result of the spread of English”. And the third is characterized by a call “for an informed understanding of the spread of English in a given country and the way it interacts with local languages and cultures” (Esseili 2011: 1).

1.3. The relation between language and religion in Lebanon

The ties between certain languages and religions have always been present in the history of Lebanon. They became highly noticeable in the wake of the Western missionaries who established religious schools. Cultural and educational ties connected France to the Maronites and Catholics, Russia to the Greek Orthodox, Turkey to the Muslims, and Great Britain to the Druze (Shaaban and Ghaith 2003: 54). Although France tried to restrict the spread of French mainly to Catholics and Maronites, other missionaries, Russian, British, and American, “opened the doors to all religious sects” (Shaaban and Ghaith 2003: 54- 5). According to Simpson (2007: 1),

[a]s a symbolic marker and index of individual and group identity, language has the potential to function as an important boundary device, separating distinct sub-populations off from neighbouring others with different, possibly unintelligible language habits, and binding the former together with shared feelings of identity and group self-interest.

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Suleiman (2006: 132) believes that there are two identity concepts that pertain to Lebanese people: “an Arab Lebanon versus a Lebanese Lebanon. The former is *of* the Arab Middle East and the latter is *in* the Arab Middle East”. Lebanese Christian communities believe they are not Arabs but Phoenicians, a claim that would grant them “a greater ‘authenticity’ in the region than their Muslim countrymen” and bring them closer to Europe (Joseph 2004: 194).

Politically, French speakers support the “concept of Lebanese national identity” that sees Lebanon “as irrevocably separate from Arab nationalism”. Meanwhile, some supporters of French in Lebanon “stress its function as a medium of cultural, even spiritual, expression which enables the Christians, mainly the Maronites, to keep their contacts with the Christian West, mainly France” (Suleiman 2003: 205- 6). On the other hand, Shaaban and Ghaith (2002: 561) believe that Muslims, “generally less affluent than the Christians”, found that the spread of French was a kind of linguistic imperialism and upheld their belief that the “Lebanese identity is essentially an Arab one”. Accordingly, “Arabic was elevated by the Muslims and considered to be the basic semblance of identity and a means of connecting Lebanon to other Arabs” (Shaaban and Ghaith 2002: 561). Although English was somehow affiliated with Lebanese Muslims, there were no ties between Muslims and English like those between Christians and French. Other than the fact that British and American missionaries were open to all Lebanese communities, Muslims did not build an identity that is ethnically and culturally connected with speakers of the English language. According to Simpson (2007: 16), although knowledge and use of English might carry “an additional competent of Western culture”, it would be “still far from reaching any kind of dominance of a more fundamental ethnic identity”, which is “more probably a characteristic of the majority population in many countries in Asia where English is widely known”.

1.4. Code-switching and Arabizi: a unique Lebanese phenomenon or threat to the Arabic language?

Given this rich multilingual history, spoken code-switching may not, in itself, represent a real threat to the Arabic language. However, SMS code-switching could be a signal of imminent danger. Here I look at two television reports that portray the relationship between the younger generation and the Arabic language in Lebanon.

The first report is Berjawi's "Arabic Language is diminishing: who is responsible?" (2016). Berjawi believes Arabic is retreating because it is not receiving public or official interest in the context of globalization. According to Berjawi, writing Arabic in Latin alphabets in social media contributes to the weakening of Arabic. In Lebanese universities, the Arabic major is close to extinction, especially in private universities. One of the Arabic language and literature students told the reporter that when people found out about her major, they were shocked and would immediately say: "What kind of major is this? It is terrible?". The student went on to say that it is really a difficult major and she would not recommend it to anybody, and it is certainly hard to find a job with it. Another student reports receiving similar comments from people who wonder what he could do with the major. The report closes with Berjawi's recommendation that we should strengthen our Arabic language in order to preserve our identity and culture.

In another report on the same TV channel, Saad (2016) interviewed some Lebanese people on the occasion of the UN Arabic Language Day, which is December 18, to test Lebanese people's Arabic writing skills. The report, which was done almost two and a half months after the first one, opens with a piece of news that the number of students registered in the Arabic Language Department at the Lebanese University for the 2016-2017 academic year was 0%. However, Saad says this should not be surprising. The report then surveys how Arabic is used in social media. Saad interviewed some Lebanese people in the street and asked them to type simple Arabic sentences on their mobile phones. All went well at the beginning: they could easily and quickly type the sentences using Romanized script. However, everything went amiss when they were asked to rewrite the same thing in Arabic script. Some said they did not know how to do it; others said it would take them about ten minutes. Saad in fact found that the Arabic script is not used at all. So she decided to conduct simpler test, but the results were even worse. Most of the people interviewed were unable to give the equivalents of simple words in Arabic, to the extent that some of them said that "cellulaire", the French equivalent for mobile phone and which is broadly used by Lebanese, means "mobile" in Arabic. That is, they thought the English word was Arabic! Saad closes her report by saying that instead of preserving Arabic, the Lebanese have distorted the language by changing its most difficult letters into numbers. The Arabic letters "ع", "غ", "ح", and "خ" have been replaced by the numbers 3, 9, 7 and 5 respectively.

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Although this thesis will focus on gender differences in SMS code-switching, it will also deal with potential threats to Arabic, chiefly in Lebanon, as a result of the young generation's excessive use of code-switching on the one hand, and their abandonment of Arabic, on the other.

1.5. Brief overview of the thesis

I will now present a brief overview of the thesis.

Chapter One introduces the background material of the study, which comprises the multicultural and multilingual Lebanese identity, the history of languages in Lebanon, and the relations that connect languages to religions in Lebanon: It concludes with speculation about the phenomenon of code-switching and the informal language known as Arabizi, hinting at the possibility that it might be a threat to the Arabic language.

Chapter Two reviews previous studies in the fields of code-switching and SMS messages within computer-mediated communication. It begins with general aspects of code-switching: functions, types, and influential models. It then surveys studies on conversational and written code-switching, particularly in SMS messages. It also gives an overview of studies on the sociolinguistics of code-switching as well as SMS messages.

The methodology of my research is outlined in Chapter Three, which identifies specific research questions, hypotheses, key terms, and definitions. It provides an overview of relevant aspects of the education system and social classes in Lebanon. The chapter also presents a detailed explanation of the data-gathering and data-analysis methods employed in this study.

In Chapter Four I give the findings of the research. Both qualitative and quantitative data based on a corpus of SMS messages, questionnaires, and interviews serve as a rich source for exploring the gender differences in SMS code-switching phenomenon with regard to various sociolinguistic variables.

Chapter Five discusses the results for the research questions and hypotheses. The chapter tests the hypotheses and then highlights additional findings of interest to the sociolinguistics of SMS messages. Consideration is further given to triangulation of the analyses of the questionnaires and interviews, with both quantitative and qualitative data. The chapter offers a general conclusion that sums up the results and reflects on the hypotheses.

The thesis concludes in Chapter Six with a summary of the findings of the research. I then reflect on some controversial dichotomies and draw out some implications. I finish with the expected benefits of the research, its limitations, and ideas for future research.

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Loubna Bassam

Chapter 2. Literature review

This chapter surveys the field of code-switching in computer-mediated communication (CMC), specifically the code-switching that takes place in SMS messages. In Section 2.1 I discuss bilingualism and its product code-switching, the functions of and reasons for code-switching, in addition to different approaches and studies on code-switching. This section also tackles differences between code-switching and borrowing, as well as the sociolinguistics of code-switching. The purpose of section 2.2 is to present computer-mediated communication studies, specifically the field of SMS messages, language switching in computer-mediated communication, SMS language, spokenness, writtenness in CMC and finally I present the sociolinguistics of SMS messages.

2.1. Code-switching

In this section I present a general view of code-switching, how it is defined in the literature, its functions, types and influential models, oral code-switching studies, how it differs from borrowing and finally the sociolinguistics of code-switching.

2.1.1. *Bilingualism*

Humans' ability to actively use two or more languages is called bilingualism or multilingualism, and thus we refer to a person who is capable of using more than one language as a bilingual or multilingual. Bilingualism is a widespread natural phenomenon that has come about in different places for different reasons (Valdes-Fallis 1978: 3). Although the core of this research is code-switching, it is of utmost importance to start with bilingualism, since code-switching is rooted in it, and has been always considered its natural product. Code-switching is a language contact phenomenon and could not be studied separately from how people deal with language(s) in certain societies and within different contexts. Code-switching is "the most creative aspect of bilingual speech" (Hoffmann 1991: 109). According to Romaine (1995: 8) it is a phenomenon

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that has been studied from different perspectives such as linguistics, psycholinguistics, sociolinguistics and education.

Regardless of the attempts that have been made by linguists to find an explicit definition for bilingualism, this sociolinguistic phenomenon has not yet received a unanimous definition. Hoffmann (1991: 14) says that “[t]he most salient feature of bilingualism is that it is a multi-faceted phenomenon. Whether one is considering it at a societal or an individual level, one has to accept that there can be no cut-off points”. One of the earliest definitions is by Bloomfield (1933: 56): bilingualism is the “native-like control of two languages”, yet the definition remains questionable with respect to the degree of proficiency required by a “native-like” speaker. One of the shortest definitions is offered by Weinreich, who describes it as follows: “[t]he practice of alternately using two languages will be bilingualism, and the person involved, bilingual” (Weinreich 1953: 1). The definition provided by Mackey is more or less the same as that of Weinreich: “we shall [...] consider bilingualism as the alternate use of two or more languages by the same individual” (cited in Hoffmann 1991: 15-16). Haugen’s definition, however, is different and a little vague, like that of Bloomfield: “bilingualism only exists when a speaker of one language has the ability to produce complete meaningful utterances in another language” (Haugen 1953: 7). Wardhaugh (2006: 96) believes that it is not necessary for those who are bilingual or multilingual “to have the same abilities in the languages”, and “that kind of parity may be exceptional”. According to Sridhar (cited in Wardhaugh 2006: 96), “multilingualism involving balanced, native-like command of all the languages in the repertoire is rather uncommon”. Romaine (1995: 6) says that “[i]deas about bilingualism have been adversely influenced by the use of terms like ‘the ideal bilingual’, ‘full bilingualism’, ‘balanced bilingualism’, etc., because they imply that there are other kinds of bilingualism which are not ideal, full or balanced.” In the synopsis of his book, Grosjean (1982) states “almost half the world’s population speaks more than one language. Bilingualism is found in every country of the world, in every class of society, in all age groups”. And as a definition that could provide a cover term for almost all instances of bilingualism, Valdes-Fallis (1978: 3-4) believes the word “bilingual” as “used by linguists” is “a general term that includes varying degrees of proficiency in two languages”. Thus according to her a bilingual “does not mean that speakers are perfectly balanced in their use or strengths in both their languages, but rather that they can function, to

whatever degree, in more than one language. Bilingual individuals, then, may have in common only the fact that they are not monolingual.”

2.1.2. An overview of code-switching

Code-switching has always been an integral part of bilingual societies all over the globe and is thus a distinctive feature of their people. However, it has only begun to attract the attention of researchers and scholars in the last few decades. Gardner-Chloros (2009: 9) says that within “the last forty-odd years, there has been an explosion of interest in CS”, and that it “had remained more or less ‘invisible’ in research on bilingualism until the work of Gumperz and his associates in the 1960s and early 1970s”. According to Stockwell (2007: 11), most people “have a repertoire of codes” and even those who are monolingual are capable of switching codes “from casual to formal class”. Wardhaugh (2006: 101) states that “[p]eople [...] select a particular code whenever they choose to speak [or] shift from code to another or to mix codes even within sometimes very short utterances and thereby create a new code in a process known as code-switching” (Wardhaugh 2006: 101). Over the years, this phenomenon has acquired different names such as ‘code-switching’, ‘code-alternation’, ‘code-shifting’, and ‘code-mixture’. According to Alvarez Cáccamo (2002: 1):

The first thing that has intrigued me for some time is how, in the 50 or so years of history of the term “code-switching”, the literature has come to encircle such a number of varied communicative phenomena into a single label, and how this label has been hyper-technified to the point of producing offshoots such as “code-mixing”, “code-shifting”, and so on.

Inspired by the work of Weinreich, Hans Vogt’s article “Language Contacts” (1954) was the first to use the term “code-switching” (Nilep 2006: 4). History of research on code-switching is abundant with various definitions. Milroy and Muysken (1995:12) believe that “the field of code-switching research is replete with a confusing range of terms descriptive of various aspects of the phenomenon. Sometimes the referential scope of a set of these terms overlaps and sometimes particular terms are used in different ways by different writers”. It has been said that

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there are as many code-switching definitions as there are scholars in the field. Nilep (2006: 1) says “scholars do not seem to share a definition of the term. This is perhaps inevitable, given the different concerns of formal linguists, psycholinguists, sociolinguists, philosophers, anthropologists, etc.”

One of the most used definitions was formulated by Gumperz, a pioneer in the field, who saw code-switching as “the juxtaposition within the same speech exchange of passages of speech belonging to two different grammatical systems or subsystems” (Gumperz 1982: 59). Nilep (2006: 6) believes there might be “no sociocultural linguist has been more influential in the study of code switching than [...] Gumperz”, and that “his work has been influential in the fields of sociolinguistics, linguistic anthropology, and the sociology of language”. Romaine (2000: 55) defines code-switching as a “normal process for growing up bilingually and acquiring competence in more than one language”. She says that many linguists have considered it a natural “communicative option” that is available to bilinguals, the same as “switching between styles and dialects is an option” for monolinguals. She deems that in both cases, switching “serves an expressive function and has meaning”. In addition, she believes that most linguists resort to the term ‘code’ to refer to the phenomenon of code-switching because it is like ‘variety’: it “is a neutral one and does not commit us to taking a decision as to whether the varieties or codes concerned constitute languages or dialects” (Romaine 2000: 61-2). One of the first definitions of code-switching was made by Weinreich (1953:1) who describes bilinguals as individuals who switch “from one language to the other according to appropriate changes in speech situations”. Moreover, he defined the ‘ideal bilingual’ as an individual who “switches from one language to the other according to appropriate changes in the speech situation (interlocutors, topics, etc.)” (Weinreich 1953: 73). Clyne (cited in Murad 2013: 1160) sees code-switching as:

change by a speaker from one language to another. It can also take place in a conversation when one interlocutor uses one language and another answers in a different one. Speakers may also begin with one language and then alter to another one in the middle of their interlocution, or sometimes even in the middle of a sentence.

The following are some of the best-known definitions, and in some respects, they are more or less the same. Valdes-Fallis (1978: 1) defines code-switching “as the alternation of two codes on the word, phrase, clause, or sentence level”. She believes it is an outcome of “language contact” where “two languages are said to be in contact when they are used alternately by the same speakers” (1978: 5). She concludes by saying “[t]he complexity of this process suggests that rather than being a lingual and limited, its users are in a unique position to use language creatively” (1978: 20). In the same vein, Poplack sees that code-switching “occurs regularly both in balanced bilinguals and non-balanced bilinguals” (1980: 583). Code-switching is the act of “alternation of two languages within a single discourse, sentence or constituent” (Grosjean 1982: 150; Poplack 1980: 583). Similarly, Heller (1988: 1) defines it as “the use of more than one language in the course of a single communicative episode”. In the same vein, Hoffmann (1991: 110) believes that “[t]he most general description of code-switching is that it involves the alternate use of two languages or linguistic varieties within the same utterance or during the same conversation”. According to Myers-Scotton (1995: 4) code-switching “is the selection by bilinguals or multilinguals of forms from an embedded language (or languages) in utterances of matrix language during the same conversation”, and that contrary to some popular beliefs, “such conversations are not mainly a transitional stage in a language shift from dominance in one language to another” (1995: 1). In other words, for her it is “the use of any two or more linguistic varieties in the same conversation, whether they are different languages, styles, or dialects” (Myers-Scotton 1995: 2). For Milroy and Muysken, it is “the alternative use by bilinguals of two or more languages in the same conversation”; it might occur “between the turns of different speakers in the same conversation”, “between utterances within a single turn” or “even within a single utterance” (1995: 7). Holmes (2008: 38) also believes that code-switching can occur in the same conversation, and “when the speakers shift from one language or code to another language or code” (Holmes 2008: 41-50). According to Gardner-Chloros (2009: 4) “varied combination of two or more linguistic varieties occur in countless bilingual societies and communities [...] are known as code-switching”, and it “refers to the use of several languages or dialects in the same conversation or sentence by bilingual people”. For Hoffmann (1991: 116) code-switching “constitutes a necessary part of social interaction among bilinguals”, who are more privileged than monolinguals, who “have only one linguistic code at their disposal” whereas “bilinguals can

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rely on a four-way choice (the two languages and various forms of mixed and switched codes, since they are able to code-switch in both their languages)”.

2.1.2.1. Functions of code-switching

What follows is a summary of some of the functions, factors and reasons that might trigger code-switching, dispersed among social, linguistic, conversational, sociocultural, pragmatic, conversational; etc. language domains. Nilep believes that “[c]ode switching may serve any of a number of functions in a particular interaction, and a single turn at talk will likely have multiple effects. Therefore, any finite list of functions will be more or less arbitrary” (Nilep 2006: 10). To begin with, Gumperz (1982: 75-81) set a list of six code-switching functions, which are, according to him, “by no means exhaustive”. He suggested quotations, addressee specification, interjections, reiteration, message qualification and objectivization versus personalization. These are known as the common functions of conversational code-switching. However, most of these functions have applicability in some written code-switching. Nilep (2006: 10) believes that “Gumperz’s list of code switching functions inspired many subsequent scholars to refine or propose their own lists of functions”. As we will see, some of the following functions overlap, one way or another, with those of Gumperz.

Valdes-Fallis (1978) offers a concise breakdown of twelve code-switching patterns with related explicit definitions and examples. First, there are the switching patterns that occur in response to external factors: (1) The situational pattern is related to the social role of the speaker. (2) The contextual pattern is linked to the other language topic and has to do with situation, topic, setting, etc. (3) Identity marker stresses in-group membership. (4) Quotations and paraphrasing: are related to the language used by the original speaker. Second, there are the patterns that occur in response to internal factors such as: (5) Random switching of high frequency items: these do not relate to topic, situation, setting or language dominance; they occur only at word level. (6) Switches that reflect lexical need: this is related to language dominance, memory and spontaneous versus automatic speech. (7) Triggered switches happen due to preceding or following items. (8) Preformulations include linguistic routines and automatic speech. (9) Discourse markers such as but, and, of course, etc. (10) Quotations and paraphrasing: this is not contextual and not related to language used by the original speaker. (11) Stylistic

switches: obvious stylistic devices used for emphasis or contrast. (12) Sequential switches: involve using the last language used by the preceding speakers (Valdes-Fallis 1978: 16).

Hoffmann (1991: 115-16) has identified seven reasons for code-switching: talking about a particular topic, quoting somebody else, being emphatic about something, interjection, repetition used for classification, intention of clarify the speech content for the interlocutor and express group identity. Myers-Scotton (1997) has proposed three somewhat different motivations for code-switching. Firstly, it can “add a dimension to the socio-pragmatic force of one’s ‘discourse persona’ either through the individual lexical choices made or through the way in which CS is patterned”. Second, code-switching can also “function as a discourse marker (e.g., signalling a change in topic, providing emphasis)”. The third possible motivation is “to lexicalize semantic/pragmatic feature bundles from the EL [embedded language] which better convey the speaker’s intentions from related lexemes in the ML [Matrix language]”. The fourth motivation is “to lexicalize semantic/pragmatic feature bundles found only in the EL (there is a lexical gap in ML)” (Myers-Scotton 1997: 225).

According to Auer (1995: 123) “contextualization compromises all those activities by participants [in code-switching] which make relevant/maintain/revise/cancel some aspects of context [...] responsible for the interpretation of an utterance in its particular locus of occurrence”. He outlined the following conversational loci in which code-switching takes place, and which he believes are the only “aspects of context that have been found to be related to code-alternation” (Auer 1995: 123): 1) “the larger activity the participants are engaged in (the ‘speech genre’), 2) “the small-scale activity participants are engaged in (or ‘speech act’), 3) “the mood (or ‘key’) in which this activity is performed”, 4) “the topic”, 5) “participants’ roles (the participant constellation, comprising ‘speaker’, ‘recipient’, ‘bystander’, etc.)”, 6) “the social relationship between participants”, 7) “the relationship between a speaker and the information being conveyed via language (‘modality’), etc.” (Auer 1995: 123).

Franceschini (1998: 60) considers that “the alternations between the two varieties are functional not only with respect to changes in participant constellation, turn-taking, topic change, side remarks, or contrastive devices like topicalisation and reported speech”, which she labels as “strong functions” and believes they have been “discussed in almost every study on code-switching” (Franceschini 1998: 60). According to her, “in contrast to such functions”, there are “more subtle ones including almost free variation”; she even goes on “to allow for the case in

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which CS has no function at all in the local conversational context” (Franceschini 1998: 60). According to her, “a speaker’s choice is regulated by his or her aims, interlocutors, biography and traditions, etc.”, and that within the “interchanges with other interlocutors, such as parents, playmates, teachers, friends and superiors, as well as through the media, a speaker has learnt how to use codes” (Franceschini 1998: 63).

Koziol (2000: 28-38) listed the major functions that drive code-switching as personalization, reiteration, designation, substitution, emphasis, clarification, objectification, aggravating messages, interjections, parenthesis, quotation, and topic shift. McCormick (2001) (cited in Smedley 2006: 20-1) identified ten functions that were applicable to Smedley’s study on code-switching in weblogs: to have a stylistic effect; to index various identities; to evoke a particular reference group; to serve a symbolic function; to indicate neutrality with respect to competing ideas; to offer an aside or parenthetical remark; to foreground material; to add force or authority to a statement; to give semantic contrast by having two focal points of a statement in different codes; to intensify contrast in register; and to create a humorous effect.

Saville-Troike (2003) identifies some language-choice determinants in multilingual contexts. She considers the topic to be “a primary determinant of language choice”. Moreover, she believes that an “appropriate language choice may depend on setting (including locale and time of day) and participants (including their age, sex, and social status)” in addition to “social and political identity”, as she believes they strongly influence language choice. (Saville-Troike 2003: 42-3). According to her, “the questions of language choice we are seeking answers to are: who uses what (variety of) language; with whom; about what; in what setting; for what purpose; and in what relationship to other communicative acts and events” (Saville-Troike 2003: 45). She also tackles some of the functions that might generate code-switching. It might be “used for a humorous effect”; it might “occur because of real lexical need”; another “social function [...] is to exclude other people”; it could also be “as an avoidance strategy” or “as a repair strategy” and it “may be used to make an ideological statement” (Saville-Troike 2003: 56-9). She believes that “whatever specific functions are served by code-switching within and across communities, it adds to the verbal strategies that speakers have at their command, and is to be recognized as a dimension of communicative competence” (Saville-Troike 2003: 59).

From a sociolinguistic point of view, Gardner-Chloros (2009) believes there are three types of factors that determine code-switching “in a particular instance” (Gardner-Chloros 2009:

42). First, there are “factors independent of particular speakers and particular circumstances in which the varieties are used”. For example, “economic forces”, “prestige and covert prestige”, “power relations” in addition to “the associations of each variety with a particular context or way of life”. The second type is “factors attaching to the speakers, both as individuals and as members of a variety of sub-groups” such as “their social networks and relationships, their attitudes and ideologies, their self-perception and perception of others”. The third set is “factors within the conversation where CS takes place” (Gardner-Chloros 2009: 42-3). She believes that these three sets overlap and interact together, and it is of utmost importance to acquire some understanding of the three of them in order “to apprehend why particular CS patterns arise” (Gardner-Chloros 2009: 43).

2.1.2.2. *Types of code-switching*

There are different forms of code-switching. Inter- and intra-sentential are two types that have been recognized by most researchers. Code-switching “can occur between sentences” (inter-sentential) or “within a single sentence” (intra-sentential) (Wardhaugh 2006: 101). An example of inter-sentential code-switching in SMS messages would be “Got them!!! *ktir full min halla2!!* woohoo!” [Got them!!! I am already full woohoo], while an example of intra-sentential code-switching would be “hello...would u be able to make it *3al 2 pm movie aw sa3be?* Coz *fallaloune* early *min* work” [Hello... would you be able to make it to the 2 pm movie or is it difficult for you? Because I’ve finished work early today].

According to Lipski (1985: 17-19), inter-sentential code-switching mostly takes place among fluent bilingual speakers, as “the switch is done at sentence boundaries”, but in intra-sentential code-switching, “the shift is done in the middle of the sentence with no interruptions, hesitations, or pauses”. Inter-sentential code-switching is also called mechanical switching: “it occurs unconsciously, and fills in unknown or unavailable terms in one language”, and this type is also known as “code-mixing”. Another type of code-switching is called “code changing”, where the switch between languages is conscious. Some of its characteristics are “fluent intra-sentential shifts” and “transferring focus from language to another”. Other than inter-sentential and intra-sentential switching, there are the subcategories “tag-switching”, “emblematic switching”, or “extra-sentential switching”. All of these terms are “used to refer to a switching between an utterance and the tag or interjection attached to it” (Milroy and Muysken 1995: 8).

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After analyzing the speech of 20 Puerto Rican residents of a stable bilingual community, Poplack (1980) also identified three types of code-switching: intra-sentential, inter-sentential and tag-switching. The first type is marked by switching among different types within the same sentence or clause, the second is characterized by shifts in clauses where one clause or sentence is in one language and the second clause or sentence is in another, and finally tag switching involves the insertion of a tag in one language into an utterance which is entirely in the other language such as ‘you know’ and ‘I mean’. “While fluent bilinguals tended to switch at various syntactic boundaries within the sentence, non-fluent bilinguals favoured switching between sentences, allowing them to participate in the code-switching mode, without fear of violating a grammatical rule of either of the languages involved” (Poplack 1980: 1).

Besides being inter- and intra-sentential, code-switching can be situational and metaphorical. Blom and Gumperz (1972) differentiate between another two types: situational code-switching and metaphorical code-switching. Their study was the first to introduce these concepts. Blom and Gumperz (1972: 421) suggested that social events, described in terms of participants, setting, and topic, “restrict the selection of linguistic variables”. They approached the matter from a sociolinguistic perspective. Situational code-switching “assumes a direct relationship between language and the social situation [...] and involves clear changes in the participants’ definition of each other's rights and obligations” whereas metaphorical code-switching is not related to “change in social situations”, rather it is determined by attitudes toward the languages concerned and toward the associations allocated to these languages (Blom and Gumperz 1972: 424). According to Blom and Gumperz, in situational code-switching, one language or language variety is appropriate in a certain situation, and thus speakers have to switch their code choice to keep up with situational changes in order to maintain that appropriateness. However, metaphorical code-switching is not caused by the situation but rather by the speakers’ communicative intent, so while there is a change in the speakers’ language choice, the situation is the same. This is to say that such changes serve speakers’ different communicative intents. In addition, Blom and Gumperz (1972) introduced three types of social constraints that trigger speakers’ code choices: setting, social situation and social event. By setting, they refer to the speakers’ physical environment where the conversations take place. As for the social situation, they are activities carried on by speakers’ “particular constellations [...] gathered in particular settings during a particular span of time”. Social events center around the

same social situation within a particular time (Blom and Gumperz 1972: 423). According to Heller (1988: 5), Blom and Gumperz “proposed a basic type of codeswitching, situational codeswitching, which is rooted in a social separation of activities (and associated role relationships), each of which is conventionally linked to the use of one of the languages or varieties in the community repertoire”.

Stockwell (2007: 12) has also approached situational and metaphorical code-switching. For him, situational code-switching occurs “[w]hen a speaker moves from one domain to another, and changes their code as a result” and when a speaker “can deliberately change codes in the middle of a situation, in order to indicate to the hearer that they consider a new domain to be in operation”. This is called metaphorical code-switching and it is done to achieve certain effects – people are aware of the shifts -, while in the first case people are usually unaware of them. There are different reasons that make people switch, such as “solidarity, accommodations to listeners, choice of topic, and perceived social and cultural distance”. This means that “the motivation of the speaker is an important consideration in the choice” and “such motivation need not be at all conscious”. There are many speakers who are “not aware that they have used one particular variety of a language rather than another [or] that they have switched languages either between or within utterances” (Wardhaugh 2006: 104).

Slightly differently, Romaine (2000: 59) refers to these two types of switching as ‘metaphorical’ switching and ‘transactional’ switching or (non situational v. situational code-switching). Transactional switching is usually “controlled by components of the speech event like topic and participants”; whereas metaphorical code-switching is concerned with “the various communicative effects the speaker intends to convey”.

However, Fishman (1972) (cited in Ennaji 2005: 139) defines situational and metaphorical code-switching in a different way again. For him, situational code-switching occurs “when speakers switch codes according to the setting, topic, interlocutor, or purpose with which it is usually associated”, whereas metaphorical code switching takes place “when a particular variety is used for the setting, topic, interlocutor, or purpose, with which it is not normally associated”. Ennaji (2005: 140) believes that both “Blom and Gumperz's approach and Fishman's complement each other. While the former approach focuses on the individual speaker, the latter is more concerned with general societal behavior”.

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Auer (1995: 115-16) identifies another type of code-switching in his theory of conversational code-alternation, “which should be applicable to a wide range of conversational phenomena”. Thus, the meaning of code-alternation is conditioned by its ‘sequential condition’, in other words, conversational interaction. According to Auer, a promising approach to code-alternation “consist[s] of analyzing the signaling value of the juxtaposition of languages and deriving the conversational meaning of code-alternation from it” (1995: 119). Auer himself approaches code-switching from its communicative purpose; he sees it as part of a verbal action, i.e. as a conversational event. However, unlike the preceding kinds of code-switching, Auer’s does not suit the purposes of my study here, given the fact that its core is written code-switching. Moreover, although all of the above-mentioned kinds, theories or approaches are basically designed for conversational or spoken code-switching, they “suggest that code-switching is somehow significant socially” unlike Auer’s, which adopts a “conversation-analytical approach” (Ollila 2010: 10).

2.1.2.3. Influential models of code-switching

The markedness model proposed by Myers-Scotton (1995) is as a sociolinguistic theory where code-switching is seen as being indexical of social role. In this model, Myers-Scotton tries to differentiate between types of code-switching based on socio-psychological motivations. This is one of the most significant approaches to language choice or alternation, along with the aforementioned approach by Blom and Gumperz (1972), which links code-switching with bilinguals’ identities. Nilep (2006: 12) believes that “the markedness model is probably the most influential and most fully developed model of code switching motivations”. The model is based on marked and unmarked choices or codes or maxims, which could be “understood as indexing rights-and-obligations sets (RO sets) between participants in a given interaction type” (Myers-Scotton 1995: 84). This means that each code or language is associated with a certain social role, and thus when choosing a particular language, bilinguals assign themselves to a particular situation based on a social role within a specific context: “The theory behind the markedness model proposes that speakers have a sense of markedness regarding available linguistic codes for any interaction, but choose their codes based on the person and/ or relation with others” (Myers-Scotton 1995: 75). The ‘unmarked’ code is the ‘expected’ and thus the ‘safer’ one, while the ‘marked’ code is the ‘unexpected’ and thus it is less used by people. With respect to code-

switching, Myers-Scotton (1995: 113-43) offers a set of four complementary types of switching or ‘constructs’ that, she believes, “accounts for all types of CS”. This taxonomy consists of (1) CS as a sequence of unmarked choices; (2) CS itself as the unmarked choice; (3) CS as the marked choice and (4) CS as an exploratory choice. The marked choice is associated with violating the “presumptions” someone might base “on societal norms for these circumstances” (Myers-Scotton 1995: 131). As for the unmarked CS, the norm implies that bilinguals are expected to code-switch in certain situations such as when they are addressing other bilinguals. “Speaking two languages in the same conversation is also a way of following the unmarked-choice maxim for speakers in many bi/multilingual communities in certain types of interaction”; “it is the overall pattern which carries the communicative intention” (Myers-Scotton 1995: 117).

The markedness model is composed of one principle and three maxims. The *negotiation principle* is modeled, according to Myers-Scotton, on Grice’s “co-operative” principle and underlies all code choices: all types of code-switching are built on the underlying negotiation principle that “embodies the strongest and central claim of the [markedness model]: that all code choices can ultimately be explained in terms of such speaker motivations”. As for the maxims, they are the ‘unmarked choice maxim’, the ‘marked choice maxim’ and the ‘exploratory choice maxim’. Myers-Scotton adds another two auxiliary maxims to the unmarked-choice maxim: the ‘virtuosity maxim’ and the ‘deference maxim’, “both directing the speaker toward seemingly marked choices”. In summary, the ‘unmarked choice maxim’ states that speakers choose the expected linguistic choice; the ‘marked choice maxim’ or the unexpected choice, as sometimes called, is when “the speaker simply dis-identifies with the expected RO [rules and obligations] set [...] between participants” and the ‘exploratory choice maxim’ is what “speakers may employ when they themselves are not sure of the expected or the optimal communicative intent, or at least not sure which one will help achieve their social goals” (Myers-Scotton 1995: 113-43). The following are the conditions that must be met for unmarked code-switching:

First, the speakers must be bilingual peers [...]. Second, the interaction has to be of a type in which speakers wish to symbolize the dual memberships that such CS calls up. Typically, such interactions will be informal and involve only in-group members. Third, proficiency in the languages used in the switching is not a sufficient condition; perhaps the most important criterion is that the speakers must *positively evaluate* for their

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identities in this type of interaction the indexical values of the varieties used in the switching. Forth, while speakers must be relatively proficient in the two (or more) languages involved, the degree of proficiency is open to question, and the literature on CS to date does not give a clear answer [...] my impression is that engaging in such switching is more associated with *familiarity* with using the languages together than it is necessarily associated with high proficiency or with any social-identity factors, such as education or age. (Myers-Scotton 1995: 119)

Gumperz (1982: 72-3) finds a function that distinguishes between in-group and out-group: he identifies the “we” code and the “they” code. According to him, code-switching is a “communicative conventions of closed network” where strategies used for code-switching find out available “shared background knowledge or cultural values of the particular speech community” (Gumperz 1982: 72). The act of alternating languages is but “a password for ethnic identity and solidarity of the community” (Gumperz 1982: 72). Gumperz considers that the code-switching used in the informal speech of members of “cohesive minority groups” speaking “the native language of home” to be the “we” code, and refers to that spoken as the majority language at work or with members of groups other than their own as the “they” code (Gumperz 1982: 73). Thus, the “they” code suggests dominance and objectivity, while the “we” code implies intimacy and subjectivity.

Similarly, Romaine (2000) draws a “symbolic distinction” between the ‘we’ code and the ‘they’ code as “embodied in the choice of varieties”. As a general rule, “the tendency is for the minority language to be regarded as the ‘we’ and the majority language as the ‘they’ variety. The ‘we’ variety typically signifies in-group, personalized activities, while the ‘they’ variety marks out-groups, more formal relations” (Romaine 2000: 60).

2.1.2.4. Conversational or oral code-switching studies

Although my research is on *written* code-switching in SMS messages, it is worth mentioning some conversational or oral code-switching studies that have to do with the core of this research. I will start this section with some studies where code-switching occurs between English and other languages, and then move to other studies on code-switching between Arabic and English.

The first study was conducted by Lowi (2005) to examine naturally occurring telephone conversations between four bilingual Spanish/English speakers who lived in the United States. This was in order to describe the types of code-switching that occur and to analyze how code-switching is used as a feature of discourse. Lowi detected different types of code-switching in the conversations between the four bilingual participants such as lexical, tags, expressions, phrases, and inter- as well as intra-sentential that were used as discourse features, i.e. for emphasis, change of topic, and for display of affect.

In another study, Chaiwichian (2007) investigated the code-switching of Thai students who attended a Mini English Program (MEP), where Math, English, and Science were taught in English. Two groups of data were collected: the first was collected when students had studied in the program for one and a half years and the second was collected two years later. There were three men and three women participating in this study. The findings revealed an increase in code-switching frequency from the first to the second survey, and showed that students switched more from Thai to English both inside and outside the classroom but less when they were inside the classroom. This study detected eight functions of code-switching: emphasis, request, clarification, calling for attention, gratitude, question shift, apology, and interjection. As for the factors motivating code-switching, Chaiwichian found familiarity, limited English ability, topics of the conversation, and interlocutors.

In a study to find out the functions of code switching between English and Afrikaans in the classroom interactions in a secondary school in the Western Cape, Rose and Dulm (2006) used three instruments: observation, interview recordings and a questionnaire. The sample included 92 participants, aged 15 to 35, of which 7 were teachers. The audio recordings of classroom interactions were analyzed within the framework of Myers-Scotton's markedness model, according to which there are four types of code-switching, and within each of these types, the researchers were able to identify a number of specific functions of code-switching such as expansion, clarification, and identity marking. The study concludes that the markedness model offers a useful framework within which to analyze types of code-switching, and that code switching has a specific functional role to play within multicultural and multilingual classrooms.

Chung (2006) examined the purposes of code-switching and investigated how code-switching was used as a communicative strategy between Korean-English bilinguals. Data were collected through videotaping of conversations between a first-generation Korean-English

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bilingual adult and two Korean-English bilingual children. The results of the study indicated that code-switching could be brought about and shaped by the dynamics of the speaker-addressee relationship and by cultural features embedded in the Korean language. The analysis also posited that code-switching functions as a communicative strategy for facilitating family communication by lowering language barriers as well as by consolidating cultural identity. The results raise further awareness that code-switching is a versatile strategy used to meet the complex communicative demands between or within generations of an immigrant family.

The last study in this section examines code-switching among Basque-Spanish bilinguals and was conducted by Muñoa Barredo (1997). This study was based on almost 9 hours of informal speech recorded in 1992 and 1994 in San Sebastián in the Basque Country, Spain, to detect some discourse/pragmatic functions of Basque-Spanish code-switching. The participants were from different age groups, and the findings showed that the motivations behind the bilinguals' code-switching went deeper than lack of competence in Basque. The researchers found that in some cases participants resorted to Spanish for linguistic reasons: Spanish items were used to fill lexical gaps. Other motivations, among many others, were a combination of a specific topic with a certain attitude the speaker would like to convey because of the different connotational implications that equivalent expressions might have in both languages, as well as to make humorous and/or ironic remarks. In sum, the data revealed that Basque-Spanish bilinguals use code-switching for a wide variety of purposes, from the need to fill lexical gaps to more complex discourse-level functions.

The following studies tackle oral code-switching between Arabic and English, except for the last two, which deal with code-switching between Arabic and French. The focus here will be on the results most closely related to my research.

One of the studies that observe the code-switching behavior of Arab speakers of English as a second language was conducted by Abalhassan and Alshalawi (2000), in which they examined the functions and the reasons of this behavior by tape-recording an informal meeting of 12 Saudi male graduates between 19 and 35 years old who were involved in graduate programs at different universities in the US. The findings reveal that bilingual code-switching is “a normal and accepted linguistic behavior”, and that there is a positive correlation between the “level of complexity of code-switches and the respondents' level of proficiency in English” (Abalhassan and Alshalawi 2000: 179).

In another study, Hussein (1999) investigated Jordanian university students' attitudes toward code-switching to find out when and why they code-switch and the most frequent English expressions they use in Arabic discourse. A three-section questionnaire was developed and distributed to students. The results revealed students' negative as well as positive attitudes toward code-switching. The findings also indicated that students code-switch into English for a variety of reasons, the most important of which was the lack of Arabic equivalents for English terms or expressions. Finally, there was a frequent use of many English expressions, which varied in range and scope in the speech of Arab educated speakers.

Taweel and Btoosh (2012) investigated intra-sentential switches that occur between subject, pronoun and verb. The corpus came from the responses of eight bilingual Jordanian Arabic-English students pursuing their higher education at Arizona State University. The findings show that participants did not accept switching into another language after a grammatical morpheme. The study also revealed that the participants' general attitude towards code-switching and the period of time students have been exposed to language switching influenced their evaluation and acceptance of utterances featuring code-switching; that is to say, "the longer the subjects have been in the United States, and the more contact they have with English, through family or friends, the more tolerant they are of switching in general" (Taweel and Btoosh 2012: 16).

Rammal (2012) discusses the kinds of code-switching, its intentional and unintentional causes, and how it can serve as a useful means of communication among Arab university students from diverse dialectical backgrounds. The findings show that code-switching was performed both intentionally and unintentionally depending on a number of factors such as full knowledge of and fluency in both languages, the speakers' social stratification, the state of being not able to find the appropriate word in L1, and the speaker's educational background.

In another study of university students, Mohammed, Hameed, and Yasin (2015) examined the use of code-switching in informal Iraqi dialect among Iraqi Arab speakers of English in order to identify the types of code-switching and the reasons for switching from Arabic to English. A qualitative approach was applied, which involved twenty men Iraqi undergraduates who were fourth-year students in different faculties at Baghdad University, aged 22 to 24. Audio recording and semi-structured interviews were used to collect the data. The results revealed that all the code-switching employed by the participants was intra-lexical, that is,

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within the boundaries of lexical items. Furthermore, the results found that the reasons for the occurrence of code-switching were due to the lack of proficiency in L1, the political scenario, and the impact of technological devices, in addition to other linguistic factors.

Akbar (2007) investigated the attitudes to code-switching of people from different age groups and school settings and how they evaluate spoken varieties in the State of Kuwait. School students (14-18 years) were recorded telling stories of personal experiences to in-group community members (same age group, gender and school type). Two groups of teenagers and another of teachers were chosen to rate the audio-recorded speakers on a number of scales to explore the evaluative profiles of different groups of people toward language choice. The findings show that the evaluated profiles of respondents differed significantly based on their school type, age group and gender. There were very positive attitudes towards code-switching, especially associated with cultural traits due to different ideologies of the different school types.

Asali (2011) explored attitudes towards English-Arabic code-switching as perceived by 200 Arab American speakers in the United States, finding out why and when Arab American speakers code-switch to Arabic, in addition to the most common terms and expressions they use in their formal and informal conversation when speaking with other fellow Arabs. Three data-collection instruments were used: a questionnaire, interviews, and personal observation. The results show that Arab American speakers tend to use code-switching to Arabic in their daily conversation with their relatives, friends and fellow Arabs. Arab American speakers also code-switched to Arabic situationally to serve functions such as topic, participants, and setting, and conversationally to fulfill variety of discourse functions. Moreover, the results show that nationality, age, education, and addressee have a considerable effect on the speakers' choice of terms and use of code-switching.

Al Ghussain (2002) investigated the similarities and differences between children's and adults' code-switching in Arabic and other languages from a pragmatic and sociolinguistic perspective, on the basis that code-switching has both a communicative and a social meaning. The study examined the language choice of the parents and children of an Arabic Muslim family who lived in Britain. The conclusion was that code-switching can explain the speaker's language preferences. For the parents in this study, Arabic was similar to a "we-code" that performed their cultural belonging to the minority, and English was considered their "they-code", associated with the language of the majority culture. As for the children, at the beginning of the observation

period they mixed Arabic and English (mixed code) and considered it their “we-code” language. However, towards the end of the observation period, the children considered English to be their “we-code” rather than their “they-code”, since English had become their “strong language” while Arabic was their “weak language”.

Two studies observe code-switching between Arabic and French. Bentahila (1983) is based on an examination of the switches in seven and a half hours of casual conversations between Arabic-French Moroccan participants, who were all balanced bilinguals aged between seventeen and forty. The conversations took place in a relaxed home setting and covered a wide range of topics, from idle chat about to more serious discussion of work, politics and education. An examination of the data suggested that the distribution of switches was by no means arbitrary: it was clear that code-switching served a variety of important functions, and might contribute in a number of ways to the facility of the bilinguals’ expression and the effectiveness of their communication. For example, it was observed that switching might allow the bilinguals to use the vocabulary that they found most available or most appropriate to a particular topic. In addition, code-switching could be used as a rhetorical device to achieve a variety of special effects, and it was also seen that switching might be a strategy adopted when the speakers are lost for words.

The second study, by Lawson and Sachdev (2000), is a sociolinguistic research that focuses on social psychological aspects of code-switching. The article is composed of three studies. In the first one, the researchers gathered attitudes about code-switching from 169 Tunisian university students. In the second, 28 similar students had to complete language diaries in which they were asked to report details about their use of different language varieties over several days. In the third, an experimental approach was used to examine the extent of actual code-switching behavior in casual interactions with over 700 individuals in the street. The results indicated that code-switching was employed largely with ‘ingroup’ members (e.g. friends, family and other Tunisians) but less with teachers or members of non-Arab groups. The overall findings of the three studies indicate that code-switching is a distinct linguistic variety, which could serve to bridge the linguistic Arabic-French duality of post-colonial Tunisia.

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2.1.3. Borrowing

Borrowing is a linguistic interaction that takes place between a donor language and a recipient language: “borrowing implies that one language takes something from another language and makes it into a permanent part of its own system [whereas] borrowing of an object from another person, is [...] implied to be temporary” (Eifring and Theil 2005: 1). According to Grosjean (1982: 308) there are two types of borrowings: speech borrowings or nonces, which take place at an individual level, and language borrowings or established loans at a community level. He believes that, contrary to code-switching, in borrowing there is a morphological and phonological integration of words or clauses (Grosjean 1982: 308). Myers-Scotton (1995: 130) calls these nonce borrowings “single-morpheme/lexeme switches”. Myers-Scotton (1997: 228) believes that “[w]hen their frequency reaches an unknown threshold level, these EL [embedded language] lexemes move from being CS forms to becoming borrowed forms and therefore now part of the lexicon of the recipient language as well as donor language”. According to her, “singly occurring CS lexemes” and “single lexical borrowings” are the same. She distinguishes between two types of lexical borrowings: cultural borrowings, which “stand for objects or concepts new to the culture” such as “college’ and “motor”, and core borrowings, which “are taken into a language even though the language already has lexemes of its own to encode the concepts or objects in question” (Myers-Scotton 1995: 6). Thus cultural borrowings “are words that fill gaps in the recipients’ language’s store of words because they stand for objects or concepts new to the language culture” (Chahine 2011: 21). These words are usually introduced to the recipient language with a new concept or to serve a specific need. According to Poplack (2001: 2064):

Despite etymological identity with the donor language, established loanwords assume the morphological, syntactic, and often, phonological, identity of the recipient language. They tend to be recurrent in the speech of the individual and widespread across the community. The stock of established loanwords is available to monolingual speakers of the recipient language, who access them normally along with the remainder of the recipient-language lexicon. Loanwords further differ from CS in that there is no involvement of the morphology, syntax or phonology of the lexifier language.

2.1.3.1. Borrowing versus code-switching

Researchers have always debated the issue of distinguishing between code-switching and borrowing, and sometimes it seems there is no definite distinction between the two terms. For the purpose of this research, it was pertinent to make a distinction in order to analyze the data. So, in contradistinction to code-switching as the alternation of two different languages in the same speech by supposedly proficient bilinguals, borrowings are lexical items from another language that have been integrated into the grammatical frame of recipient language. According to some linguists, these lexical items are called ‘borrowings’ only when they fill a gap in the recipient language. Although they might look similar to code-switches, borrowed items could be accessed and used by monolinguals, whereas code-switches are a characteristic of bilinguals or multilinguals. Thus those who use borrowed words are not assumed to be competent bilinguals as they usually borrow a word or a concept from a language that is socially superior to the one they speak. French has always played this role in Lebanon, as well as English nowadays. Myers-Scotton (2002) believes that “some members of community X have to be bilingual enough to produce some words or phrases in language Y”. This level of bilingualism is not necessary for those who only use frequent “cultural” borrowings that might “begin life” in the speech of monolinguals as well as bilinguals, but for those who are capable of using infrequent “core” borrowings or code-switches. According to her, “core” borrowings and code-switches resemble each other in terms of frequency of use by bilinguals (2002: 238-9). The major distinction between borrowings and switched items resides in the fact that the latter do not entail an integration of elements from the donor language into the recipient language. Borrowings are usually restricted to a limited number of words. Thus English words such as ‘courses’ and ‘semester’ “are borrowed and adapted phonologically and morphologically into Arabic and the whole sentence is uttered as if there was no instance of switching from English to Arabic” (Al-Quadhai’een 2003: 18).

2.1.4. The sociolinguistics of code-switching

In this section, light will be shed upon the sociolinguistics of code-switching and some of its aspects, particularly gender, which is the main variable in this study, and its interaction with other variables. In addition to gender, this section will deal with three other variables in this

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study, namely age, or more specifically intra- and inter-generational relations, social class, and religion. I will attempt to show that these variables are inseparable and that they cannot usually be studied in isolation from other interwoven sociolinguistic factors. My aim will be to introduce some of the ‘traditional’ or most prevailing linguistic differences between men and women in the literature, and try to show that such differences are rooted in the social environment.

Montgomery (1995) says:

Distinct groups of social formations within the whole may be set off from each other in a variety of ways; by gender, by age, by class [...] these differences most frequently go hand in hand with differing degrees of access to material resources, to knowledge, to power. (1995: 64)

2.1.4.1. Language and gender

The core of this research concerns the interaction of gender with other sociolinguistic variables such as age, social class and religion, the minor variables in this research. Different sociolinguistic approaches have shown that the language men and women choose as a means of communication in certain social contexts draws the differences between them. Lakoff (1973: 45) sees that “[o]ur use of language embodies attitudes as well as referential meanings”, and that we are used by languages as much as we use them: “As much as our choice of forms of expression is guided by the thoughts we want to express, to the same extent the way we feel about the things in the real world governs the way we express ourselves about these things”. Eckert (1989: 245) believes that “sex is not directly related to linguistic behavior but reflects complex social practice” and that the “correlations of sex with linguistic variables are only a reflection of the effects on linguistic behavior of gender —the complex social construction of sex—and it is in this construction that one must seek explanations for such correlations (Eckert 1989: 245).

Upon reviewing the evidence of “sex as a sociolinguistic factor”, Labov (1990) states that “the clearest and most consistent results of sociolinguistic research in the speech community are the findings concerning the linguistic differentiation of men and women”. He sees this as being “summed up in two distinct principles”: (1) “In stable sociolinguistic stratification, men use a higher frequency of nonstandard forms than women”, and (2) “[i]n the majority of linguistic changes, women use a higher frequency of the incoming forms than men” (Labov 1990: 205-6).

He explains that these two principles reflect dissimilar “kinds of differences between men and women” or as he labels them “the reversal of roles”. According to him, within the “stable situations” of the first principle, “women appear to be more conservative and favor variants with overt social prestige, whereas men do the reverse”. However, “in the unstable situations” described by the second principle, “it is men who show a more conservative character, and women who use forms that deviate more from the standard and are in fact stigmatized when they are overtly recognized” (Labov 1990: 206). Although he presented his principles based on differences in “behavior of the sexes”, Labov believes that sex is an inappropriate category to “explain linguistic behavior”, which should be examined within cultural roles of males and females in the society (Labov 1990: 206).

Analyzing the results of studies conducted by different sociolinguists in Paris, New York, Detroit and Chicago, Labov (1972: 301-2) found that “women use the most advanced forms in their own casual speech, and correct more sharply to the other extreme in their formal speech”. He believes that “it cannot be only their sensitivity to prestige forms, since that explains only half of the pattern”. Trudgill (1972: 182-3) also suggests that “women [...] use forms associated with the prestige standard more frequently than men”, and that they are linguistically ‘overwhelmingly’ conservative because they are totally aware of their status in the society. His findings in Norwich reveal a distinct use of prestige forms by men and women: while women tended to use an overt form of prestige, men tended towards a covert one. According to him, overt prestige is associated with refined qualities in the society whereas covert prestige has to do with masculine qualities such as “rough and toughness”. Women’s behavior is but a reaction to their weak insecure position in the society, opposed to men, who “can be rated socially by their occupation, their earning power, and perhaps by their other abilities”. Thus it is through language that women seek a better status in the society.

In their “new framework” for examining differences in male and female contributions to cross-sex conversation, Maltz and Borker (1982: 197-8) presents a thorough explanation of the different “speaking patterns of men and women”. Their model “is based not on new data, but on a reexamination of a wide variety of material already available in the scholarly literature” (Maltz and Borker 1982: 197). They find numerous “striking differences” in those studies, and they are able to summarize the most palpable features of men’s and women’s conversational styles. As for women, they “display a greater tendency to ask questions”; they “are more likely than men to

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make utterances that demand or encourage responses from their fellow speakers”; they “show a greater tendency to make use of positive minimal responses”; they “are more likely to adopt a strategy of "silent protest" after they have been interrupted or have received a delayed minimal”; and finally “women show a greater tendency to use the pronouns ‘you’ and ‘we,’ which explicitly acknowledge the existence of the other speaker”. On the other hand, “men are more likely to interrupt the speech of their conversational partners, that is, to interrupt the speech of women”; “they are more likely to challenge or dispute their partners’ utterances”; “they are more likely to ignore the comments of the other speaker”; they “use more mechanisms for controlling the topic of conversation”; and finally “men make more direct declarations of fact or opinion than do women” (Maltz and Borker 1982: 197-8).

Romaine (2000: 101) believes that all of the explanations and justifications that have been provided to explain these differences “have never been satisfactorily accounted for”. According to her, a great deal “of language is ambiguous and depends on context for its interpretation, a factor far more important than gender. On closer examination, there are few, if any, context-independent gender differences in language” (Romaine 2000: 102). Society “or even more grandly ‘reality’ itself, is largely constructed through language” (Romaine 2000: 106). Eckert (1989: 246) states that “sex is a biological category that serves as a fundamental basis for the differentiation of roles, norms, and expectations in all societies. It is these roles, norms, and expectations that constitute gender, the social construction of sex”. Eckert and McConnell-Ginet (1998: 485) believe that gender issues are mingled with other social issues and thus cannot be separated out. They criticize who tend to do so:

Gender is abstracted whole from other aspects of social identity, the linguistic system is abstracted from linguistic practice, language is abstracted from social action, interactions and events are abstracted from community and personal history, difference and dominance are each abstracted from wider social practice, and both linguistic and social behavior are abstracted from the communities in which they occur.

2.1.4.1.1. Intra-gender language. Gardner-Chloros (2009: 83) says that, even within the same society, women “do not all behave as a monolithic group”. She believes that gender “is not a fixed, stable and universal category whose meaning is shared within or across cultures. It cannot

be separated from other aspects of social identity and its meaning varies in different domains” (Gardner-Chloros 2009: 83).

This is closely related to Eckert’s famous study on the “Jocks” and “Burnouts” in a high school in Detroit, where she found that “gender does not have a uniform effect on linguistic behavior for the community as a whole, across variables, or for that matter for any individual [and that it] is a social construction and may enter into any of a variety of interactions with other social phenomena” (Eckert 1989: 258). The linguistic differences between the “Jock” and “Burnout” girls are more than those between girls and boys; their cultural identity as “Jocks” and “Burnout” overlays their identity as girls. Eckert believes that “sex is rarely more ‘salient’ in one category than the other. One certainly cannot say that the boys and/or girls are asserting their gender identities through language more in one category than in the other. Rather, there are greater category differences in one sex group than the other” (Eckert 1989: 265).

Montgomery (1995: 156-60) refers to various studies where men and women have been found to behave differently even within intra-gender contexts. In studies carried out in South Carolina and Belfast, women from different age groups have been found to play different roles. Montgomery goes on to say that “it depends upon which women are being considered [...] and most fundamentally upon what kinds of relationships shape their everyday lives” (Montgomery 1995: 156-60). However, this does not mean “that there are no differences in the speech of men and women. But, in the same way we noted [...] these differences tend to be relative rather than absolute”. Montgomery says that “in the area of allegiance to overt versus covert norms of usage – standard versus vernacular” the differences that “tend to be matters of degree are not consistently in one direction with women always adopting overt norms more than men” (1995: 158).

With reference to studies on language and masculinity, Teutsch-Dwyer (2001: 176-7) believes that “masculinities may vary not only within one individual, one group of individuals, but also across cultures”. According to her, “there is no one prototypical ‘masculinity’, but rather a range of masculine identities. Shaped by personal and societal values and subject to constant conditioning [...], the same individuals may articulate talk and gender differently under different social circumstances” (Teutsch-Dwyer 2001: 177).

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2.1.4.1.2. *Women's language and innovation.* Montgomery (1995) believes that young women are behind linguistic changes and inventions: “whereas in South Carolina we noted young women leading change in the direction of the standard, in Belfast we can observe some younger women [...] playing a leading role in implementation a vernacular innovation” (Montgomery 1995: 156).

Labov reports that “[i]n case after case, we find that women used the most advanced forms in their own casual speech” (Labov 1972: 301). Referring to one of the linguistic patterns, Labov (1972: 301) asserts that “women are almost a whole generation further along in the raising of (eh) than the men”, and that the same findings have been obtained in other studies in different places. Labov cites a study on the vowel system in Chicago and confirms that once more “it is the women in this group who show the more extreme forms” (Labov 1972: 302). Labov says that if we admit that women do so because “they are more sensitive to prestige forms” why then do “they move forward faster in the first place?” (Labov 1972: 302).

Gardner-Chloros (2009: 85) believes that ‘*humour*’, ‘*bonding*’ and ‘*dampening directness*’ are “functions that are associated with [code-switching]”, and that these uses of code-switching “were particularly typical of women in the community, though by no means exclusive to them”. Lakoff (1973) claims that women have their own vocabulary which is more expressive: whereas both men and women may use adjectives that are “neutral as to the sex of speaker”, there is another set of adjectives that has a “figurative use” that seem “to be largely confined to women’s speech” (Lakoff 1973: 51). Lakoff refers to the first set of adjectives, such as ‘great’, ‘terrific’, ‘neat’ and ‘cool’ as being neutral, whereas the ‘women only’ set includes words like ‘adorable’, ‘charming’, ‘cool’, ‘sweet’, ‘lovely’, and ‘divine’ (Lakoff 1973: 51).

Similarly, looking at Facebook users Sukyadi, Wirza and Hasiani (2012: 100-1) find that words such as ‘happy’, ‘sad’, ‘angry’, ‘love’, and ‘missing’ are frequently used by women and rarely by men, and there are 127 emotional sentences for women versus 21 for men. Endearment words such as ‘baby’, ‘dear’, and ‘honey’ are mostly used by women, and that women tend to use them with their boyfriends as well as with their female friends (Sukyadi et al. 2012: 103-4).

2.1.4.2. Code-switching and gender

In one of the few studies that tackles code-switching as a social phenomenon in the Arab world, Ennaji (2005) studied Moroccan Arabic-French code switching. According to him, “code

switching reveals the permanent desire of code switchers to preserve their group or cultural identity, on the one hand, and the need for their socioeconomic advancement in society, on the other” (Ennaji 2005: 139). He believes that code switchers are of different types “depending on the languages they switch, their gender, their linguistic ability and the topics addressed” (Ennaji 2005: 145). Furthermore, “sociocultural, educational, and psychological factors are at work in individual speech behavior” and that “age, gender, and cultural factors, namely the system of beliefs, viz. Islam, local traditions, and customs have a significant impact on individuals’ speech” (Ennaji 2005: 146). He found that Moroccan women code-switch more than men, and that “Moroccan urban women use the prestige of French, toward which they hold a very favourable attitude” (Ennaji 2005: 146). Ennaji was able to associate specific language(s) with gender: he revealed that Standard Arabic is associated with men whereas Berber is associated with women. On the other hand, Moroccan Arabic and French function as both men’s and women’s languages (Ennaji 2005: 146).

Regarding language choice, Gal (1978: 9-11) also found differences between men and women. In different language-choice situations, men maintained a very consistent pattern, whereas women made different language choices in different situations. Although Koziol (2000) was not designed to investigate the percentage of code-switching in men’s and women’s speech, it was noted that women code-switched more than men in all three age categories.

In a study that sheds light on intra-gender as well as inter-gender differences, Wong (2003) examined the relationship between gender and code-mixing in Hong Kong. Data were obtained through the use of a questionnaire and a language diary experiment from 10 young women and 10 young men who had just joined the workforce. It was found that differences in code-mixing behavior are not simply linguistic differences between women and men, but also involve differences in orientation with respect to other social identities (e.g. women in the new generation versus women in the old generation, individuals who work in “more competitive environments” versus individuals who work in “less competitive environments”). Wong (2003: 57) concludes that “gender is an ongoing complex construction interwoven with other social constructions of identities”.

Jagero and Odongo (2011: 11) locate an “obvious distinctive code-switching pattern between the two genders” in different ranks and age groups in Nairobi. The data for this study consists of recorded spontaneous speech of 20 informants distributed into five different

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conversation groups. The participants' conversations consist of both code-switching instances and unswitched code. Gender is taken as one of the most significant variables to detect differences in code-switching patterns. It is found that in the conversations that either men or women were involved in, women tended to code-switch more than men do, but in mixed conversations, men tend to have more code-switching instances than women. According to Jagero and Odongo, this indicates that men "tend to be more relaxed whenever they are conversing with [women] as compared to when the [women] speakers are alone. On the other hand, [women] are much more relaxed when they are alone but become less relaxed when they are mixed with [women]" (Jagero and Odongo 2011:8). They believe that, linguistically, code-switching is considered a "nonstandard variety of language", and thus men "deliberately" opt for "nonstandard language code-switching" whenever they are with women; on the other hand, women are "more standard in such instances". Giles et al. (cited in Jagero and Odongo 2011:8) believe that the nonstandard variety of language used by men with women is "a way of showing their dominant social position and confidence" while the standard variety used by women whenever they are with men is but an indication of "their opposition to the existing 'male domination'". However, Jagero and Odongo found that the "unswitched codes" in the conversations of both men and women were exactly the opposite, as they represented the "standard language varieties" and were thus used in formal circumstances, unlike the code-switching varieties.

Alsbai (2011) examined the code-switching of 22 participants (11 men and 11 women) who live in Jeddah. The speakers came from three different age groups: 15-20, 21-25 and 26-30. Alsbai used indirect interviews and a questionnaire. The code-switching between English and Arabic was examined in relation to gender and age. The data clearly show that the rate of code-switching between Arabic and English in the case of women speakers was higher than that of men speakers. Whereas women code-switched 64 % of the time, men code switched 36 % of the time. There were two major reasons for this. First, some of the students code-switch between Arabic and English because of their academic majors such as English, medicine, and computer programming. The second reason is prestige, which is the main reason given by 75% of the speakers who code-switched in this study.

2.1.4.3. *Language and age*

Giles et al. (2003: 2) note that “there is very little research that specifically examines intergenerational communication across different cultures”. According to Grosjean (1982: 137), “[a]ge plays a role in language choice”. Gal (1979) (cited in Grosjean 1982: 137) states that “[a]mong the various attributes of speakers it is neither their status as peasants nor the nature of their social networks that correlates most closely with language use. It is their ages.”

Myers-Scotton (1995: 39) has observed that “[w]ith family members, most urban Africans still use their mother tongues almost exclusively unless their marriage is inter-ethnic or they are highly educated”.

Analyzing the results of one of the studies, Milroy (1987: 124) notes “that it is easier to demonstrate sex differences in language use, than age [...] differences”. Referring to various other studies, Grosjean (1982: 137) declares that the age factor affects language choice as well as the “degree of intimacy between the speakers”, and accordingly a certain language would be used in a formal or an informal context.

2.1.4.4. *Code-switching and age*

In one of the earliest studies to investigate language choice based on the addressee, Gal (1978) found that both men and women in Oberwart shifted between German and Hungarian in accordance with their interlocutors. According to her, “the person’s age and her or his social network” are the two factors that “determine the degree to which a person uses H as opposed to G” (Gal 1978: 8).

Ennaji (2005) finds that age is an important sociolinguistic factor that entails code-switching. He reports that Moroccan “young people use an informal slang of Moroccan Arabic amongst themselves, but a polished form of Arabic with older educated people. However, when they speak to illiterate people, they use plain informal Moroccan Arabic”. Whenever “an older man joins them in conversation, the shift is usually to a more polite style of Arabic if the language of interaction is Arabic. However, if the language of conversation is French, then the young peers tend to switch to the native language (Moroccan Arabic or Berber)” (Ennaji 2005: 147). Ennaji believes that the “intimacy factor is also at play, for the peer group, which is significantly marked by intimacy, speaks in an informal way. Their informal causal speech is replaced by formal speech in the presence of an outsider” (Ennaji 2005: 147).

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Koziol (2000: 29-30) finds that personalization, a category that was identified by Gumperz (1982), is the most frequent type of code-switching in her study. This function takes place with the aim of including the listener or the addressee. In Koziol's study, the speakers alternated their codes in accordance with the listener in a way that would "create a feeling of camaraderie and belonging among the speakers" (Koziol 2000: 30).

In one of her studies, Gardner-Chloros (2009: 46) concludes that the use of code-switching was more "associated with informal contexts and a 'chatty register' than it was with a certain topic". She found that it was "more frequent, and more intensive, in workplaces, between colleagues or peers than between family members, though it is more frequent in families than between people who do not know each other."

Wong (2003), mentioned above, found that female informants reported a higher percentage of Cantonese-English code-switching than male informants in in-group contexts (friends, boyfriends, girlfriends and co-workers). However, both female and male informants reported lower use of Cantonese-English mixture with family members, as most of their verbal exchanges with parents were in Cantonese. Fishman, Cooper, and Ma (1971) (cited in Grosjean 1982: 132-3) conducted an extensive study of Spanish-English bilingualism in a Puerto Rican neighborhood in New Jersey. A questionnaire and an interview were used, and most of the Puerto Ricans they surveyed were young, 70% of the sample. The researchers were studying language use in different contexts: the home, neighborhood, school, church and working place. In the home, Spanish was mostly used, but its usage over English was dependent on participants and topics. The mother spoke Spanish to family members; the father spoke Spanish to his wife and usually to his children. However, children would use Spanish with their grandparents, English and Spanish with their parents, and mostly English among themselves.

In a study that took place in Pomerode, a small town in Brazil, by Heye (1979) (cited in Grosjean 1982: 133-4), 80% of the sample, sixty-nine informants, reported that their mother tongue was German, and most had learned Portuguese at school. According to Heye, the pattern of language use in Pomerode is somewhat complex: German is the dominant language in church, Portuguese in clubs and sports, and both languages are used equally at work and in stores. At home, German is used extensively at mealtimes, when putting the children to bed, for prayers, and for schooling. It is also used with family members and neighbors, whereas Portuguese and German are employed equally with friends. In another study of language choice, There Barber

(1973) (cited in Grosjean 1982: 134) studied the language usage of twelve Yaqui Indian young men in Arizona, who were all trilingual. People there learn Yaqui at home, Spanish in the home and the community, and English at school. Those young men spoke Yaqui with the older people in the family, Spanish with their children, and both Spanish and English with people their age. Furthermore, Gal (1979) (cited in (Grosjean 1982: 137) reported that in the German-Hungarian Community of Oberwart, young people speak mainly German, except with their grandparents or when they are in the church whereas old people mostly speak Hungarian. The same was found by Wald (1974) (cited in Grosjean 1982: 137), where young people in coastal Kenya use both Swahili and their local language with each other, but never use Swahili when they address elders as it would be considered as a kind of insult, even though they are bilinguals as well.

2.1.4.5. *Language and social class*

Milroy (1987: 131) believes that “even within a single social class group, different bits of the language are associated with sex, area and age subgroups in an extremely complicated way, patterns of sex differentiation being particularly sharp”. Eckert (1989: 253) elaborates the same point:

Whereas the power relations between men and women are similar to those between dominant and subordinate classes and ethnic groups, the day-to-day context in which these power relations are played out is quite different. It is not a cultural norm for each working-class individual to be paired up for life with a member of the middle class or for every black person to be so paired up with a white person.

According to her, “sex and social category are not necessarily independent variables but that they can interact in a very significant way” (Eckert 1989: 264). According to Labov (1990: 220-1),

Binary divisions into upper and lower class are of little value in sociolinguistic studies and conceal more information than they reveal. A useful view of the social distribution of a variable requires at least four divisions of the socioeconomic hierarchy, giving us two extreme or peripheral groups and two intermediate or central groups. We need these

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categories to get an accurate picture of the social stratification of language. We also need them to map the interaction of sex and social class, because the behavior of men and women in these various social groups has been found to be quite different in almost every case that has been studied. It follows that we must analyze sexual differentiation separately for each social group —not only socioeconomic class groups, but also ethnic groups, urban and rural groups, and generations [...] The reports that show cross-tabulations by sex and social class consistently show strong interactions between these factors.

According to Milroy (1987: 110), “[a]ll studies undertaken in cities have shown a very clear link between a speaker’s language and his position in a social class”. One of the most famous studies that tackle language and social class is the one conducted by Labov (1972) in New York City in 1966. He studied the social stratification of rhoticity: the pronunciation of /r/ when it is not preceded by a vowel was a prestige feature in New York. He examined the speech of people in three department stores in New York, testing how they would pronounce the expression “fourth floor” in order to check whether the phonological variable /r/ was present or absent. Labov found that this accent feature was correlated with the socioeconomic status of the New Yorkers; it was dependent on their social class. The results revealed that those who belonged to higher social classes would pronounce /r/ more than those in the lower social classes. Later on, Labov (1972) expanded his study across a random sample of different social classes in New York City, and once again he noticed the same prestige variation among lower middle-class people. He termed this phenomenon ‘hypercorrection’ and explained it as follows:

At the level of casual, everyday speech, only the upper middle class shows a significant degree of r-pronunciation. But in more formal styles, the amount of r-pronunciation for other groups rises rapidly. The lower middle class, in particular, shows an increasingly rapid increase surpassing the upper middle class level in the two most formal styles. (Labov 1972: 115)

Labov believes that “one cannot understand the development of a language change apart from the social life of the community in which it occurs [...] social pressures are continually

operating upon language, not from some remote point in the past, but as an immanent social force acting in the living present” (Labov 1972: 3). In reference to his study on sound change in Martha’s Vineyard, Labov (1972: 3) says that “development of a language change” can only be understood within “the social community in which it occurs”.

Influenced by Labov, Trudgill (1974) carried out a study on the interaction of language and social class in Norwich, where he examined the presence and absence of 16 variables in the urban dialect of a sample of 60 people. He divided his informants into five social classes as well as gender, age, and area. According to Trudgill (1972: 187), Norwich informants were “much more prone to under-report than New York informants, and that [...] male informants in Norwich are much more likely to under-report, female informants to over-report”. In terms of social class, “a large number of Norwich males” were favorable toward “non-standard” working class speech, which was “statusful and prestigious” among them, an attitude that was “never overtly expressed”. Thus, whereas male speakers were “more concerned with acquiring prestige of the covert sort”, female speakers were more favorable of overt prestige, or simply “much more favourably disposed towards [middle-class] standard forms” (Trudgill 1972: 188). Montgomery (1995) pointed out that “nothing in the sound itself that can guarantee a prestige status for it. Instead it is the social evaluation solely that confers prestige or stigma upon certain patterns of pronunciation. For one thing the prestige form of one language area can turn out to be the stigmatized form of another” (Montgomery 1995: 68-9). He was hinting at the fact that in New York City, the inclusion of /r/ sound after the vowel in some words is prestigious whereas it “can merely sound rustic or even comic” in Britain, “being primarily associated with the patterns of pronunciation of rural south-west England” (Montgomery 1995: 69).

2.1.4.6. Code-switching and social class

Ennaji (2005: 144) states that socio-economic factors are among numerous variables that “determine the directions and extent of code switching”. Within his research, he revealed an “overlap between code switching and social class”. He found that Moroccan upper- and middle-class people lean towards using urban Arabic and French, whereas working-class people use rural Arabic and Berber. In addition, upper-class people code-switch from French to urban Arabic, but rarely to Berber or rural Arabic, and those from the middle class tend to switch from urban Arabic to French, rural Arabic, or Berber. As for the working class, they tend to code

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switch more frequently as they come into contact with the middle class, the upper class and the business area. (Ennaji 2005: 144-5). He also observed that within middle and upper classes, “parents often prefer to speak French to their children given its social prestige and the doors it may open for them in society” (Ennaji 2005: 147).

Jagero and Odongo (2011: 1) similarly found that code-switching was used differently among high-rank and low-rank participants, and thus they “realized that each of the codes has a specific function and social symbolism to each individual group in different contexts”. Upon analyzing code-switching patterns among genders in different ranks, the researchers found that high-rank speakers and low-rank speakers have different code-switching patterns. While female speakers in the low rank exhibit more code-switching than the male speakers of the same rank, male speakers of high rank exhibit more code-switching than female speakers of the same rank. This is to say, the rank of a person influences and modifies the gender code-switching pattern (Jagero and Odongo 2011: 11).

2.1.4.7. Language and religion

The following studies provide an overview of the relation between languages and religions in Lebanon, and thus in turn offer a framework for the results that pertain to religion in the students’ SMS.

The first study was conducted by Diab (2009: 105) “to investigate Lebanese university students’ perceptions of their ethnic, national, and linguistic identity and their preferences for choice of first foreign language [...] and medium of instruction in pre-university schools in Lebanon”. The students were from different religious backgrounds, Christians and Muslims, who also differ in terms of their first foreign language; for some of them it was English while it was French for others. The findings reveal that those from a Christian background were “much more likely than their Muslim counterparts to construct an identity of themselves that is ethnically and culturally distinct from the rest of the Arab World” (Diab 2009: 101-2). Christian and Muslim students have very different opinions about the issue of “Phoenician/non-Arab vs. Arab Lebanese ethnic identity”; most of the Christians believe that they are Phoenicians and not Arabs, unlike Muslims who have the opposite opinion. The other issue that raise discrepancies between students is “the argument that ‘Arab does not equal Islam’ vs. the counter-argument that non-Muslims cannot be considered Arab” (Diab 2009: 109-10). In other words, Christian

students were highly in favor of the idea that Lebanese are not Arabs and that being Arab is equal to Islam.

Shaaban and Ghaith (2003: 53) explore the linguistic attitudes of Lebanese college students “towards the languages that help define the multilingual character of the country, namely, Arabic, French, and English”. The students were also Christians and Muslims; their first foreign language was either English or French. The findings show that religion is an effective factor in the linguistic attitudes of Lebanese students. There were significant differences between Christian and Muslim students concerning the following issues: the percentage of Muslim students who believe in the utility of the Arabic language is higher than that of Christian students; Christian students “hold the role of FL [foreign language] in social life in higher esteem than their Muslim counterparts”; “the percentage of Muslim students who prefer English media to French media is higher than that of Christian students”; Christian students are “less worried than their Muslim counterparts about” the influence of the foreign language on the “cultural identity of the Lebanese”; and the percentage of “Christian students who prefer English to French as a medium of instruction is higher than that of Muslim students” (Shaaban and Ghaith 2003: 66-8).

2.1.4.8. Code-switching and religion

Cooper and Greenfield (1968) investigate language use among bilingual Puerto Ricans in an urban community near New York. Data was gathered on the usage of Spanish and English in five domains: family, neighborhood, religion, education, and work. Spanish was found to be used in the family, neighborhood, and religion domains. All of the three groups in the study reported using more Spanish with older people, and young people reported using more English with people same their age (Cooper and Greenfield 1968: 491-4).

A similar study was conducted by Fishman and Greenfield (1968) on a group of bilingual Puerto Rican teenagers in New York, and yielded the same results: “Use of Spanish was reported primarily in the domain of family, secondarily for the domains of friendship and religion and least of all in those of education and employment, while the reverse held true for English” (Fishman and Greenfield 1968: 454).

According to Ennaji (2005: 145), “religious factors may provoke code switching. Most religious topics are dealt with in Moroccan Arabic if the setting is informal [...] However, on

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formal occasions such as on television, in the Friday prayer and in scholarly religious lectures, Classical Arabic is systematically used”.

Al-khatib and Sabbah (2008: 50-2) have also found that students code-switch from English to Arabic in their SMS messages in accordance with “socio-cultural and religious functions”. For example, one of the expressions that was found in the students’ messages is the Islamic greeting “*Asalaamu Aleikum*”, or ‘peace be upon you’, and at other times they would just use the short version *Salam*, or ‘peace’. Similarly, Warschauer, El Said and Zohry (2002) found that participants would could switch from English to Egyptian Arabic in their computer-mediated communication when using religious expressions.

In a study carried out on language choice on Facebook, Salia (2011) has studied code-switching within three groups, based on the language that is mostly used by the group. She has found that religious phrases trigger code-switching and that in “purely religious situations”, members of the *Darija* (Moroccan Arabic) group will just use Modern Standard Arabic whereas the members of French and English groups “are always more playful with language. Still, in Purely Religious or Religious Celebratory situations they are more likely to layer French or English on top of still-religious Arabic sentences” (Salia 2011: 40).

Asali (2011: 61) has found that that religion, or religious issues, is among the most frequent topics that prompt code-switching from English to Arabic by Arab Americans living in the United States.

2.2. SMS messages

In this section I will define Computer-Mediated Communication (CMC), its different types and aspects, which include SMS messages or text messaging. Then I will present some of the studies where code-switching takes place in different CMC modes such as emails, Facebook, instant messages, and blogs. I will define mobile phones and SMS messages, text messaging, SMS language that is used by most of young people nowadays in the Arab world. After that, I will compare between the spokenness and writtenness of CMC. Then I will present some of the studies on code-switching in SMS messages. The last part will be dedicated to the

sociolinguistics of SMS messages, focusing on studies on SMS messages and gender, SMS code-switching and gender, SMS messages and age, and finally SMS code-switching and age.

2.2.1. *Computer-Mediated Communication (CMC)*

Nowadays the advances that are rapidly taking place in almost all aspects of technology have reshaped whole communication patterns and have brought in innovative practices of communication. People are competing to keep up with these changes; otherwise they will be considered ‘outdated’. Computer-mediated communication has affected every single aspect of people’s lives, from the way they socialize and perform their daily chores to the way they classify themselves and others. As Herring (2008: xxxvi) notes, “[t]he definition of computer-mediated communication itself has changed over the years, from the exchange of textual messages between individuals typing on the keyboards and reading the screens of networked computers, to any digitally mediated communication”. Herring believes that interactive forms of online communication such as “blogs, wikis, and social network sites have blurred the boundary, together with the ongoing tendency for older CMC modes such as e-mail and chat to be integrated into Web browser interfaces” (Herring 2008: xxxvi).

So what is computer-mediated communication? According to Kelsey and St.Amant (2008: xxxvii), “CMC can be a one-to-many or one-to-one transaction, a synchronous (real time) or asynchronous (time delayed) process and involve modes of interaction as diverse as typed text, spoken discussions, or visual/video messages”. Asynchronous CMC means that the moment the sender, the first party, sends a message is different from that when the recipient, the second party, receives it. In other words, the message is sent in a particular time and would be read some other time. Examples of asynchronous communication are emails, video messages, and text messages. On the other hand, synchronous communication refers to communication that occurs simultaneously between two active parties. Examples of synchronous communication are video conferencing and instant messaging.

Androusoyopoulos (2006: 420) says that the work of Crystal could be called the “first wave” and “epitomizes much scholarly work on language use in CMC in the 1990s, in English and other languages” [...] a work that has “used the distinction between synchronous and asynchronous modes of digital communication as a pivotal point of linguistic description”. Upon

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examining different studies that hint at a sociolinguistics of CMC, Androutsopoulos (2006: 423-30) concludes that part of these studies “keep to the focus of sociolinguistic CMC research on verbal interaction on discussion boards and chat channels, while others examine the edited content of websites and weblogs, which has been generally less explored from a sociolinguistic viewpoint”. Androutsopoulos believes that these papers “demonstrate the contribution of sociolinguistics to the study of the new forms of communication and community in what Castells [...] calls the ‘network society’” (Androutsopoulos 2006: 430). In one of her papers on CMC, Herring (2004: 26) wonders whether new CMC technology is giving rise to new social practices, and if so, in what directions it is steering us. Upon conducting a survey in which “CMC is defined broadly to include both interactive, text-based modes and human communication via the World Wide Web”, Herring (2004: 31-2) states that “online discourse takes place today in a more subdued social, economic, and political climate”. In another study, Herring (2003:1) “surveys research on gender and the internet published or presented between 1989, when gender issues began to be raised in print in the early 1990s, and the present time”. The following summarizes her findings concerning asynchronous CMC, where SMS messages belong:

The linguistic features that signal gender in computer-mediated interaction are similar to those that have been previously described for face-to-face interaction, and include verbosity, assertiveness, use of profanity, politeness (and rudeness), typed representations of smiling and laughter, and degree of interactive engagement [...]. There is an overall tendency for some of these behaviors to correlate more with female CMC users, and for others to correlate more with males. This does not mean that each and every female and male manifests the behaviors; exceptions to the tendencies can readily be found. It does mean, however, that gender predicts certain online behaviors with greater than chance frequency when considered over aggregate populations of users, controlling for variables such as age, topic, and the synchronicity of the medium. (Herring 2003: 6-7)

According to Doheny-Farina (1996) (cited in Kelsey and St.Amant 2008: xxxviii) CMC provides us with “the opportunity to construct utopian collectives—or communities of interest, education, tastes, beliefs, and skills. In cyberspace, we can remake the world out of an unsettled landscape”. As for the “sociolinguistic investigation of spaces of CMC” such as web forums,

Kytölä (2012: 127) believes that it “opens up a window to the multilingual practices of diverse online community”.

2.2.1.1. Code-switching in Computer-Mediated Communication

Here I begin with studies that mostly deal with code-switching between English and other languages, and then I will describe studies that tackle code-switching between Arabic and English, except for one study that examines Arabic-French code-switching.

With a catchy title that draws on the presence of spoken and written language in mediated-computer communication, “See you online” by Baron (2004) tackles gender differences in American college students’ use of instant messaging. The corpus consisted of 23 different IM (instant messaging) sets of conversations. There were 18 intra-gender conversations, 9 men/ men and another 9 women/ women conversations, and an additional 5 inter-gender conversations. The 23 IM conversations contained a total of 2,185 conversational turns, made up of 11,718 words. The findings revealed that some of the gender distinctions reflected public functional gender differences in face-to-face oral conversations, while others showed gender-based attitudes toward the importance of language standards in speech and writing. It was found that IM conversations embodied a mixture of both spoken- and written-language conventions, and in terms of gender-based patterns of linguistic usage there were different conversational scaffolding in the patterns of both men and women.

A study carried out by Smedley (2006) analyzed the code-switching variety Taglish (Tagalog-English) in personal weblogs written by Filipino bloggers. It basically looked at how linguistic and discursive practices involving code-switching between Tagalog and English are involved in identity negotiation and construction in weblog narratives. The primary purpose was to investigate why writers of weblogs code-switch in non-conversational contexts where there is no direct addressee and why a particular language is used at a particular point in the weblog narrative. The research questions were tackled through a corpus of some 25 extracts. The findings show that Muysken’s model of insertion, alternation and congruent lexicalisation (2000) is applicable to written Taglish code-switching in weblogs. In addition, there were different code-switching functions for English and Tagalog.

“Code switching and code mixing in Internet chatting: between ‘yes’, ‘ya’, and ‘si’” is a study by Cárdenas-Claros and Isharyanti (2009) tests the occurrences of code-switching and

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code-mixing in chatrooms. The participants were 12 non-native speakers of English from Spanish and Indonesian backgrounds. The two month conversations were analyzed in order to identify the frequency of code switching and code mixing for both cultures, topics that triggered code switching and code mixing in each culture, topics common to both cultures and topics less likely to occur within both cultures. The findings showed that regardless of participants' background, technology-related terms as well as introductory terms triggered the most instances of language alternation.

Negrón Goldbarg (2009) conducted a study in which she examined Spanish-English code-switching in emails of five Spanish-English bilingual Latinos, whose native language is Spanish. She believes that contrary to spoken code-switching, “naturally-occurring code-switching”, especially in emails has not received significant attention. According to her, written code-switching is but “an under-studied area of Latino linguistic practices” In a systematic approach to explore the contextual parameters of written Spanish-English, the researcher employed methods that were new to the paradigm of discourse analysis of email texts. The findings were consistent with other studies of code-switching in CMC, and based on situational factors such as email subject and email recipient, they revealed certain functions for each language. Whereas English was associated with professional or formal contacts, Spanish was used in intimate, informal and group identification contexts. In addition, the study presents novel orthographic and linguistic forms specific to the CMC context.

Fong (2011) applied a functional approach to examine the occurrences of code-switching of 12 participants; six were of Indonesian background while the other six participants were Latin Americans. They were advanced English speakers from different American universities. The data consisted of messages posted by students on their Facebook profile pages with the purpose of examining the various functions and reasons for code-switching. The data were analyzed according to two models; Appel and Muysken's (2006) six functions of code-switching and Malik's (1994) ten reasons for code-switching. Findings revealed that online code-switching would occur mainly to serve referential, expressive and metalinguistic functions.

Sukyadi et al. (2012) as well investigated code-switching on the wall posts of 24 Facebook users. The participants were 12 males and 12 females, who were students at the English department. The researchers were after exploring the types and reasons as well as the differences of code switching between male and female respondents. The findings showed that

English was the most dominant language in the posts of those students, and that code-switching is a subconscious action. In terms of gender differences, there were differences in the language alternation of both men and women. Women used more tags questions, endearment words and intensifiers than men do; women seemed more polite than men and more sensitive to words implying feelings; they tended to talk more about the people and relationship whereas men preferred talking about music and technology.

In one of the earliest studies that examines code-switching in CMC in the Arab world, and shed light on Romanized Arabic used in CMC, Warschauer et al. (2002) investigated language choice online by a group of Egyptian Internet users, examining in what circumstances, and why, would they use English and Arabic in their computer-mediated communication. The study was carried out among 43 young professionals, between the ages of 24 and 36; they were 23 men and 20 women. A written survey was developed that inquired about people's language and literacy practices in addition to voluntarily examples of any email messages or online chats and an interview with selected participants. Two interesting findings emerged from this study: first, that English was the dominant language used online among those participants; the dominance of English was particularly strong in formal email communication. However, the situation was more balanced in informal email communication with a slight majority of participants code-switching between English and Arabic languages, principally Egyptian Arabic. Secondly, a written form of Romanized Egyptian Arabic was also widely used in informal communication whereas classical Arabic in Arabic Script was seldom used by any of the 43 participants in their Internet communications. The researchers believe that online communications features a new and unusual diglossia between a foreign language, English, and a Romanized, predominately colloquial form of Arabic.

Palfreyman and al Khalil (2003) carried out another study to discuss characteristics of Latinized Arabic, ASCII-ized Arabic (AA), in which ASCII (American Standard Code for Information Interchange) symbols are used to represent Arabic in IM (Instant Messaging) and other electronic written communication. The study examined AA as used among bilingual female university students in the United Arab Emirates, Dubai, aged 18-19 years old. The data consisted of three different resources: a corpus of messenger conversations, responses to a short e-mail survey, and informal observations. The AA in the conversations was found to show influences from computer character sets, from different varieties of spoken Arabic, from Arabic

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script, from English orthography and from other Latinized forms of Arabic. There was also a fair amount of code-switching and code-mixing which was correlated with different functions or topics, with Arabic being used for more formulaic phrases and English for topics such as university courses. Most of the participants mentioned using AA in e-mails, and in mobile phone text messaging (SMS).

In another study on code-switching in emails, Al-Tamimi and Gorgis (2007) investigated Romanized Jordanian Arabic, which was termed a hybrid lingua franca or even a pidgin by the authors. This study was based on 1098 e-mail messages sent by 257 undergraduate students and on 1400 chat turns exchanged between nick-named senders, as well as on an A4 eight-page conversation run by seven participants. It revealed that code-switching was obvious in the messages, 60% of which involved switching from English into Romanized Jordanian Arab.

Sharaf Eldin (2014) examined Arabic-English code-switching on Facebook in an attempt to discuss the functions of code-switching of bilingual users. The data were collected from status updates posted on the subjects' Facebook wall, and the researcher used Malik's (1994) ten reasons for code-switching as a framework. The findings indicate that code-switching occurred to serve addressee specification, reiteration, message qualification, clarification, emphasis, checking, indicating emotions, availability, principle of economy and free switching functions. This shows that code-switching occurs not only in spoken discourse but also in online written discourse, and the reasons for switching codes are similar. A further finding is that the ability of the interlocutors who are able to speak more than one language fluently plays an important role in their interaction.

Salia (2011) examined code-switching in Morocco by analyzing conversations on Facebook to find out which genres Moroccans code-switch in and why. The participants were divided into three discrete groups of users, each of which tended to use specific languages. All of them used Darija (Moroccan Arabic dialect) most of the time, but one group tended to rely on French, another on English, and yet another only used Darija most of the time. The findings indicate two very important explanations for how and why Moroccans use language online. First, individuals tended to superimpose words on top of the structure of another language. For example, although members of the English group used English words, they layered those words on top of either French or Arabic sentence structures. Second, when one person changed languages the rest were likely to follow suit. If one user posted something in English, then people

tended to respond in English, regardless of their main language. Salia believes that such a change in languages is often due to a change in genre, and that the informality of Facebook fosters the creation of new forms of communication and blurs the boundaries of conversation genres: “Who is to say that a specific conversation is personal, religious, serious, humorous, or any other number of things? The internet is a more fluid, less rule-bound medium and conversation taking place on the internet is less party to rules that exist in both written and spoken speech” (Salia 2011: 41).

2.2.2. Mobile phones and SMS messages

Herring (2008: xxxvi) notes that “[m]obile telephony has also come to be included in the definition of CMC, largely because of the resemblances between SMS (Short Message Service, or text messaging on mobile phones) and traditional modes of CMC such as Internet Relay Chat and instant messaging”. According to Kelsey and St.Amant (2008: xxxviii), “advances in wearable computing [among which are cell phones] are beginning to blur the line between reality and science fiction [...] the speed with which such technologies emerge and evolve—and the effects such changes can have on social practices – can leave one’s head spinning”. They believe that such developments “have made us all increasingly global citizens”, and that “CMC paradigm is not a phenomenon that is limited to one culture, region, or linguistic group” (2008: xxxviii).

Along with mobile phones, Short Message Service (SMS) was introduced in the 1990s, and the first text message, ‘Merry Christmas’, was sent in December 1992. Short Message Service (SMS) has reshaped communication to the extent that it has constituted a new genre in the telecommunications world - most of these messages are sent by teenagers. Studies from different parts of the world show that teenagers “have developed typologies of messages [...] which inform one as to the expectations associated with [these] messages and how the receiver should or might interpret those they receive” (Ling, Julsrud, and Yttri 2005: 75). Nowadays SMS messages are used for a variety of purposes in the lives of people of all types, whether poor or rich, literate or illiterate, young or old. They have redesigned their modes of interaction and have expanded their fields of communication. Lexander (2012: 148) also notes that SMS messages have different purposes: “some take the form of ‘gifts’, or greeting cards [...] that do not demand

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a reply, while others are aimed at initiating a longer exchange”. According to Harper (2005: 89), “texting is a practice whereby [...] teenagers build the social fabric of their world”. Herring (2004: 3031) says that SMS is similar to an “email sent over mobile phones”, and that it “is ubiquitous among teenage and pre-teenage users”.

As texting has become a worldwide phenomenon, research has tackled distinctions within these SMS messages. Differences have been noted between the sexes and between people with different regional, social, and occupational backgrounds. Huffaker and Calvert believe that adolescents are capable of forming their “online identity” through “gender similarities and differences in language use” (2005: 6). Age is another factor that contributes to the distinctions in SMS messages. According to Crystal, there is a difference between texting and txtng, since the former is usually done by adults who do not text frequently while the latter characterizes the way teenagers text on their mobiles: “As older and more conservative language users begin to text, an even more standardized style appears.” “It is partly a matter of age and familiarity (or lack of it)” (Crystal 2008: 20-1).

Lam (2012: 204) believes that in order “[t]o gain a strong understanding of the impact that SMS may have on interpersonal relationships, we must continue to add, remove, and test more variables”. Lam (2012) carried out an experimental study to investigate the impact of SMS on social connectedness and group attitude in student technical-communication projects. Using a between-subjects design, the experiment compared two student groups: SMS only and non-SMS. The results indicated several statistically significant differences. Compared to students in the non-SMS group, students in the SMS-only group (a) communicated more, (b) felt more connected, and (c) sent more questions, answers, and non-project-related messages. These results provide empirical reasons for using SMS in team contexts.

2.2.2.1. SMS features

Many of the features that have always been exclusive to face-to-face interactions, facial expressions for instance, have been replaced by emoticons to deliver the endless expressions and feelings texters might wish to include in their messages. Al Rousan (2014: 263) says that emoticons are parallel to body language. The following studies look at linguistic features in SMS messages.

Elvis (2009) has found that “texters have reinvented conventional linguistic and communicative practices to express their thoughts”. Cameroonian and Nigerian texters utilize linguistic methods such as “letter/number homophones, non-conventional spellings, accent stylisations, omission of punctuation marks, lack of word inter spacing, use of onomatopoeic expressions/exclamations as well as complex capitalisations” (Elvis 2009: 25).

In another study, Hård af Segerstad (2005) finds that SMS language use by Swedish is “adapted to the constraints of production and perception conditions due to the means of expression, as well as situational parameters”, in addition to some interesting strategies such as different kinds of “syntactical and lexical reductions”. Some of these kinds are “omitting subject pronoun or even whole verb phrases” besides ‘unconventional’ and ‘not yet established’ “creative lexical reductions in the abbreviations” (Hård af Segerstad 2005: 49). Moreover, there are various features that are allied with spoken language such as “omission of subject pronoun”, “hesitation sounds and laughter”: “Spelling reminiscent of spoken interaction served to save time, effort and space, and to render an informal touch and serve as in-group markers” (Hård af Segerstad 2005: 49).

Halliday (2003) believes that we are witnessing a change in discourse and that electronic texts are reducing the distance between spoken and written modes; they have developed their own “features and patterns that are part written part spoken and part perhaps unlike either” (Halliday 2003: 415).

Shintawati (2008) finds that code-switching in SMS messages can take place due to reasons such as the use of sentence fillers or connectors, expressing group identity or simply being emphatic about something. Sentence fillers or connectors are widely used in Javanese-speaking students’ messages, and according to Shintawati (2008), students use them for reasons such as expressing emotions or attitudes such as delight, surprise, shock or disgust.

Ahmed, Nurullah, and Sarkar (2010: 123) find that nowadays we say “SMSing” instead of “He/she is writing an SMS”. Young people have invented many new words as a result of mixing Bangla and English in their SMS messages. For example, they add the English suffixes ‘s’, ‘ist’ and ‘esque’ to Bangla words. In addition, they find that most young people break grammatical rules and use abbreviations, emoticons and symbols in their text messages. The latter features are mostly used by women (Ahmed et al. 2010: 123-4).

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Gohardehi and Gheitury (2014) believe that messaging or as they call it “modern technology” presents itself to Persians via the English language, paving the way for “a new variety of Persian, the so-called *Finglish* or *Pinglish* (a blend of Farsi/Persian and English) which is replete with abbreviations and acronyms, blending of English and Persian words, new lexical items, and a form of Persian which is often symbolized in English letters” (Gohardehi and Gheitury 2014: 535-6).

2.2.2.2. SMS language (Arabizi)

When mobile phones were first launched, non-Latin scripts were not supported on them and thus users all around the world, including in Arab countries, were obliged to use Latin script, particularly English. As a result, Arabic speakers developed a means of communication by which they were capable of communicating in their vernacular Arabic but with Latin script. In this ‘encoding system’, a mixture of Latin letters and numbers that represent Arabic sounds is used to represent spoken Arabic. In a couple of years this phenomenon spread extensively throughout the whole Arab world, mainly among teenagers and young people, and invaded almost every single means of communication. Hinting at the “ASCII-ized Arabic” or the “funky language for Teenzz”, as they called it, Palfreyman and al Khalil (2003: unpaginated) observe that “under the combined pressure of technical and social change, [this language] is being used routinely in written form, for everyday interactional purposes [and that] standardization of this form of Arabic is almost entirely informal”. According to Allehaiby (2013: 53), “this phenomenon is believed to have been developed in response to the prevalence of western technology, namely Internet Relay Chat (IRC), text messaging (SMS) and emails, all of which initially required the use of the Latin alphabet”.

This Romanization of the Arabic language has acquired different names such as ‘Arabizi’, ‘Romanized Arabic’, ‘Latinized Arabic’, ‘ASCII-ization’, and ‘Arabic Chat Alphabet’. Lebanese young people, for example, call it by different names but mostly refer to ‘Internet language’ or ‘chat language’. The term ‘Arabinglizi’ was coined by Munira Khayyat in an article published in the *Daily Star*, a Lebanese English newspaper, on June 15, 1999 (Thonhauser 2000: 52). It was basically invented by blending the words ‘Arabic’ and ‘Inglizi’, the Arabic name for English. Al-khatib and Sabbah (2008: 46) believe that “this form of Romanized Arabic did not exist before the advent of the Internet, and it can be noticed that there is a heavy use of this new

form of written communication among students to such a degree that the traditional way of writing Arabic is counted out”. Bianchi (2015) describes the phenomenon in a fascinating way:

Design is usually seen as a systematic practice engaged in by professionals, resulting in physical products for consumption. Yet, the internet and mobile technology have opened the field of design to non-professionals who have created several non-tangible, knowledge-based products including communication and language forms. The internet provides an unregulated space for various hybrid makings ranging from novel domains of communication and self-expression such as wikis and blogs to dynamic platforms for interaction such as Facebook, Twitter, and Internet Relay Chat. Regarding language, one such grassroots design product is 3arabizi, a unique linguistic blend of Arabic and English. (Bianchi 2015: 1)

This distinctive feature of using Romanized Arabic is not the only characteristic that distinguishes the SMS messages of young people nowadays. Code-switching is another prevalent linguistic feature that embodies their text messages. Regardless of their cultural differences and backgrounds as well as their bilingual competences, young people code-switch extensively in their SMS messages. Indeed, the bilingualism that has shaped many societies around the world has also reshaped teenagers’ linguistic ways of writing their SMS messages to an extent that code-switching has become the norm in these messages. Carrier and Benitez (2010: 169) note that “[r]ecent studies indicate that bilingual speakers continue their code-switching behavior when sending text messages”. Sharaf Eldin (2014: 85) states that “code-switching is a natural phenomenon that not only occurs in bilinguals’ speech, but also in their electronic discourse”. In addition, the “reasons for switching codes are similar to those of verbal communication”. Based on a number of studies, Lee and Barton (2012: 129) indicate that “although multilingual Internet users are willing to switch to English when writing online, other languages which are normally restricted to spoken contexts co-exist with English in online texts, such as the dominant use of Romanized Arabic in [some online aspects]”. Alexander (2012: 153) believes that code-switching in text messages should not be studied apart from its “relation to the multilingualism of the whole corpus”, because code-switching exists not only in text, “but within the practice of the writer as well [...] This code-switching is related to norms of language use, for particular topics

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as well as for different relationships between interlocutors. Language choice obtains its effects by breaking with the norms or by respecting them”.

2.2.2.3. Spokenness and writtenness in CMC

In the last few decades, linguists have comprehensively researched and interpreted spoken code-switching; however, written code-switching, particularly in computer-mediated communication, has not received much attention. Baron (2000: 248) believes that CMC is “an emerging language centaur, part speech, part writing”. Negrón Goldberg (2009: 1) refers to it as “spoken-like” because it “enables users to communicate with rapid feedback and informality of style”, but the absence of “prosodic and paralinguistic cues” makes it different from spoken discourse. Palfreyman and al Khalil (2003) state that the “importance of social norms in orthography is also visible at a more micro level of discourse. One pervasive feature of CMC discourse [...] is phonological simulation—representation of spoken features in online text [...] such as ‘gonna’ and ‘wanna’.” Cárdenas-Claros and Isharyanti (2009: 71-2) believe that from a traditional perspective, “language is conceived into two categories: spoken and written genres. While written language tends towards structural complexity, formality and abstraction, spoken language is more context dependent and structurally simpler”. However, within “CMC environments one of the most striking features of language is the blurring of the spoken and written distinction”. Crystal (2005: 1) notes that the “Internet has permitted language to evolve a new medium of communication, different in fundamental respects from traditional conversational speech and from writing”. He proceeds to list the properties that differentiate the language of CMC from speech: “its lack of simultaneous feedback”, “the absence of a nonsegmental phonology” and “its ability to carry on multiple interactions simultaneously”. On the other hand, he also lists the properties that differentiate CMC language from writing: “its dynamic dimension”, “its ability to frame messages” and “its hypertextuality” (Crystal 2005: 1). Thus, according to Crystal, CMC, or “Textspeak” and “Netspeak” as he names it, “is more than just a hybrid of speech and writing, or the result of contact between two long-standing mediums”. He believes that electronic texts have peculiar properties than none of spoken and written mediums have, and this makes “Netspeak a genuine ‘third medium’” (Crystal 2001: 48).

In his study on the sociolinguistics of SMS of Norwegians, Ling (2005: 347-8) elaborates the similarities SMS messages hold with both written and spoken forms of communication. He

thinks that at the linguistic level, “SMS seems to be trans-linguistic drag queen. It has features of both spoken and written culture but with enough flare of its own to catch your attention”. According to him, there are “several elements that cause one to think that SMS is more like speaking than writing”, while “there are several features associated with SMS that indicate that it is like writing”. Sebba (2012) draws a comparison between conversational code-switching in different contexts and texts in written genres, both on the Internet and other frameworks such as magazines. He concludes that “online chat and text-messaging share many of their features with spoken conversation” in terms of ‘interactivity’, ‘synchronicity’, and more or less, ‘sequentiality’ and ‘permanence’” (Sebba 2012: 6-7).

2.2.2.4. Code-switching in SMS messages

Shintawati (2008) describes the types of code-switching in 105 SMS messages sent by Javanese-speaking students. The results show various types of code-switching, the most frequent being intra-sentential (64.1%). There was also inter-sentential code-switching as well as other types. Shintawati identified 11 reasons for code-switching: inserting sentence fillers or sentence connectors, softening or strengthening request or command, economy, expressing group identity, intention of clarifying the speech content for interlocutor, talking about a particular topic, a real lexical need, being emphatic about something, presenting terms of address, quoting somebody else, and repetition used for clarification.

Lexander (2011) studied what role language choices play in constructing new practices and what motivations are behind students’ languages choices. The analysis was based on six months of fieldwork in Dakar, during which the researcher collected 496 SMS and interviewed and observed 15 students, mostly university students, who had sent and received the messages. They were seven women and eight men. Although the students usually wrote monolingual texts, mainly in French, their text messages involved the use of African languages too, in particular the majority language Wolof, as well as Arabic and English, often mixed in one and the same message. The final corpus was made up of 496 text messages, 30 emails, 10 instant messaging conversations and other texts collected as well as quantitative and qualitative approaches. The findings show how multilingual literacy practices were constructed through the complex use of different languages, and that managing relationships was the main aim of texting, which was intermingled with identity. The motivations and functions of the students’ languages choices

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were not necessarily linked to identity issues. Code-switching was used for instance as a compositional feature in the short texts and playfulness was another important factor inspiring language choices.

Carrier and Benitez (2010) conducted two studies to evaluate the benefits of having multiple languages to draw on during text messaging. The researchers tested the hypothesis that multilingualism increases text messaging efficiency by allowing multilingual users to draw from multiple languages to choose short words and phrases. A corpus of text messages from English-Spanish speakers was analyzed for message length. The results showed that messages involving code-mixing were longer than messages written in only one language. A second study was an experiment in which English-Spanish speakers and English-only speakers played a texting game devised to encourage efficiency in SMS communication. The results from the game indicated that messages from English-Spanish players were no shorter than messages from English-only players. The data from the two studies provided no evidence that language switching during SMS was a means of dealing with character limits. In terms of code-switching, it was found that 17 of the 26 participants (65.4%) had some bilingual (mixed) messages in their text messages.

2.2.3. The sociolinguistics of SMS messages

In this section I present studies on SMS messages and gender, SMS code-switching and gender, SMS messages and age, and SMS code-switching and age.

2.2.3.1. SMS messages and gender

There are various studies that have investigated the relation between SMS messages and gender. In the following I will mention some of them, indicating their most significant findings. One of the oldest studies is Thurlow (2003) on 159 older teenagers' use of mobile telephone text-messaging, analyzing the linguistic forms and communicative functions of a corpus of 544 SMS messages. The findings indicate that by serving the sociolinguistic maxims of brevity and speed, paralinguistic restitution and phonological approximation, young people's messages are both linguistically unremarkable and communicatively adept. In terms of gender, it was found that women used abbreviations more than men do, 89% and 57%, whereas sexual jokes were almost always sent by men.

Ling (2005) studied the demographic, behavioral and attitudinal use of mobiles and SMS by 2003 Norwegians, examining a corpus of 882 messages retrieved from 463 of those respondents. The findings revealed various significant gender differences in terms of frequency of sending messages, themes in the messages, most frequently used words, number of different words used, message length and message complexity, use of abbreviations and rural dialect, use of capitalization and punctuation and use of openings and closings. Women were found to send more messages on a daily basis, write more emotionally based “grooming” messages, as well as writing longer and more complex messages and using more abbreviations, emoticons, punctuation, salutations and/or closings than men did. On the other hand, men were found to write short and simple one-word answers in their messages; men used messages to plan activities in the middle future, unlike women, who used them to make plans for the immediate future. Men were also found to use more pronouns and nouns, whereas verbs, adjectives and propositions were used more by women.

Rafi (2008) tested the assumption that women’s lexical and morphosyntactic choices are different from men’s. One hundred messages were taken randomly from 20 cell phones and perceptions of 25 males and 25 females in Pakistan. The texts were analyzed to examine lexicology, morphology and syntactic levels. The results show that a novel intelligible language had evolved through SMS messages. There were significant differences between males’ and females’ linguistic properties. Females were more skillful than males in writing complex, long and lexically dense messages. They had developed a unitary system of intelligible communication in the form of SMS language, which was also having backwash effects on Standard English and media language in Pakistan.

Baron and Ling (2011) explored the nature of punctuation in electronically-mediated communication by analyzing focus-group data from adolescents discussing text messaging and by assessing a corpus of text messages sent by university students. They found gender-based differences in certain patterns. Along with inter-gender differences, there were also intra-gender differences. In terms of inter-gender distinctions, whereas adolescent males “were comfortable ending their text messages when they had gotten their point across”, adolescent females “felt it was important to soften their messages with concluding courtesy markers” (Baron and Ling 2011: 62). As for intra-gender differences, teenage females were found to use emoticons heavily, whereas less than 1% of the males used them.

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Al Rousan, Abdul Aziz, and Christopher (2011) explored gender differences in the typographical features of text messaging by young Jordanian undergraduates. The data were collected from 160 first-year undergraduates. Open-ended questionnaires, user diaries, and semi-structured face-to-face interviews were used. A total of 2,054 text messages were analyzed qualitatively. The data were classified under four typographical features: punctuation, letter and number homophones, phonetic spelling, and emoticons. The analysis revealed that there were gender differences with respect to typographical features. Women used more punctuation and emoticons than men did. On the other hand, letter and number phonemes, such as “some1” instead of ‘someone’, were found more in men’s messages, as was phonetic assimilation as in “dunno” instead of ‘don’t know’.

Shahyad et al. (2011) conducted a study on the content, motivation and frequency of SMS messages sent by 125 girls and 138 boys aged 14 to 18. The results showed that there was a significant difference between boys and girls with regard to motivation, content and frequency girls sent messages more frequently than boys, who sent more messages with impersonal information and gave more uncommon content. In terms of motivation, whereas girls “are mostly motivated by being informed and feeling secure as a result of the information received, [boys] are mostly motivated by avoid [sic] of face-to-face relationship” (Shahyad et al. 2011: 897).

Ceccucci, Peslak and Sendall (2013) explored the effect of gender on text messaging. Their statistical analyses were based on a sample of 153 completed questionnaires: 63 from males and 89 from females. The findings show very little statistical difference based on gender, with the exception of emotions. All of the positive emotions were used more frequently by females than by males. In other words, females were more visually pleased, satisfied, contented, and delighted with their text-messaging experience.

Shawcroft (2014) also studied gender differences in the use of text messaging. The sample consisted of 27 participants aged 18 to 35: 14 were female and 13 were male. Data were collected from the participants in a focus group. Some of the differences that were found were: (1) Females preferred to argue via messages, whereas males preferred phone calls to do this. (2) Females used text messages for privacy purposes or to exclude others, but males did not mention using text messages for this purpose. (3) Females used messages to keep others awake, whereas males do this to keep themselves awake. (4) Most of the females in the study preferred using longhand language in their messages, while some of the males preferred shorthand language, and

others believed that using incorrect grammar would lead to language degradation. Shawcroft (2014) also finds that the text-messaging practices of most of the participants in her study are dependent on intra- or inter-gender settings. Both men and women use more smiley faces and proofreading, for example, when they text the opposite gender.

Al Rousan (2014) investigated lexical features in the SMS messages of young Jordanian male and female university students aged 18-20. A corpus of 1,612 SMS messages, an open-ended questionnaire, a user diary, and semi-structured interviews were used to collect data. The analysis showed that whereas males used more abbreviation and acronyms than females, females used more borrowing, derivation, compounding, blending, conversion and coinage than the males.

Gohardehi and Gheitury (2014) explored how gender was reflected in messages produced by Iranian students. There were 277 high school participants: 145 females and 132 males. A corpus of 2,116 text messages was analyzed, in addition to a questionnaire on frequency of using text messaging by those students. The results indicate that females were more prolific users of messaging. Further, while texts produced by females were for the most part relational, involving emotional language, males frequently employed messages for informative-transactional functions that were less wordy and in a more authoritative register. In addition, males were more likely than females to employ their local dialect and some forms considered less polite.

Ling (2005) proposes the following conclusion on the sociolinguistics of SMS messages:

What does all this tell us about the sociolinguistic nature of SMS? At the broader social level the results here indicate that, as in other spheres of language use, the culture of SMS lives among younger women users. In spite of the fact that men were early adopters of mobile telephones, it is among these women that the great motor of SMS lives. Women, and in particular younger women, seem to have a broader register when using SMS. They use them for immediate practical coordination issues and also for the more emotional side of mobile communication. In addition, their messages are longer, have a more complex structure and retain more of the traditional conventions associated with other written forms than men. [...] This competence is also extended to telephonic communication. The material here seems to suggest that women are also more adroit “texters.” This is not to say that the writing of the teen women is the polished prose of Margaret Mead, Toni

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Morrison or Virginia Woolf. These are short and slapdash messages intended for immediate response. There is often a type of breathless, I-can't-wait-for-your-response nature to the messages. None-the-less, it shows that it is the youngsters who have in many ways the most respectful prose in their SMS messages. At least in this format and in this medium, it is the teens and teen women that have control. (Ling 2005: 348)

2.2.3.2. SMS code-switching and gender

The study conducted by Al-khatib Sabbah (2008) could be the first one in the Arab world to deal with gender differences in SMS code-switching. They examined the linguistic structure and sociolinguistic functions of Arabic-English code-switching in mobile text messages of a group of Jordanian university students, in addition to the distribution of the switched elements by syntactic category. The corpus was collected from 46 students, both graduates and undergraduates, studying at different Jordanian universities. They were 17 males and 29 females ranging in age from 17 to 26, all of whom were native speakers of Arabic but were learning English as a foreign language. Qualitative as well as quantitative analyses were carried out. The major findings indicate that there are a number of technical elements that might be responsible for the wide use of English or for switching between English and Arabic “with Arabic Roman scripts” in mobile text messaging. Moreover, code-switching could be brought about and shaped by the dynamics of the relationship of the speaker–addressee and by cultural features embedded in the Arabic language. Switching to Arabic was found to serve functions different from those served by switching to English. The analysis also showed that code-switching in this particular means of communication functions as a communicative strategy for facilitating communication by lowering language barriers as well as by consolidating cultural identity. As for gender, the researchers noticed that females had a stronger tendency than males to use switches, and males, by contrast, had a stronger tendency to use Arabic totally rather than English totally or mixed elements.

Mustafa (2011) examined SMS code-switching among teenagers in Jordan from five different private and public schools, focusing on the most frequently used phrases and the reasons behind switching either to English or Arabic while texting. A corpus of 1500 text messages was collected from 150 male and female teenagers; the sample was equally distributed between males and females whose ages were 13-17 years. The methodology used in this study

was descriptive and analytic, and a questionnaire and an interview were conducted. The major findings indicate seven main reasons behind teenagers' switched SMS messages, among which the functions served by switching to Arabic or English. Regarding gender, the findings once again indicate that females code-switched more males, while males used more Arabic than English or mixed elements in their messages.

Ahmed et al. (2010) explored the evolution of language in SMS mediated communication among university students in Bangladesh. Half the 300 participants were women. The participants responded to a Likert-type questionnaire in addition to a self-tailored survey instrument. The results show that Bangladeshi youth were significantly affected by current trend of SMS communication, and that code-switching and code-mixing were very prevalent in most of their SMS messages. Concerning gender, it was found that young females preferred to send more SMS messages and used more emoticons and smileys in their messages than males did.

Kahari (2014) carried out a sociolinguistic study to investigate the patterns and factors of language choice in the text messaging of 50 Shona-English bilingual students, both males and females, at the University of Zimbabwe. In addition to text messages, an open-ended questionnaire and a semi-structured interview were used. The students were asked to forward at least three text messages from their cell phones sent to three different recipients: one sent to a friend, one to parents and the third sent to a classmate. The major findings indicate that there were a number of technical elements that might be responsible for the wide use of Shona-English code-switching. It was revealed that students preferred to write their text messages in English, followed in frequency by those with a mixture of Shona and English, followed by Shona texts. Thus, students' different language choice patterns were dependent on the recipient and situation, which could either be formal or informal, as well as factors such as age and sex. Both males and females use Shona in intra-gender messages and English in inter-gender text messages. In addition, both of them use English in text messages sent to other gender for the sake of prestige and sophistication. On the other hand, female students were found to use longer, more complex and sophisticated messages and more punctuation than males did, whereas males were found to use more abbreviations as well as more letters and number homophones.

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2.2.3.3. SMS messages and age

One of the studies that tackle the issue of age in SMS messages is Vykoukalova (2007), which investigates the influence of mobile phones (cell phones) on adolescents' communication behavior. The study focused on three areas: contextualizing adolescents' mobile communication, the symbolic meaning of the device, and the transformation of communication with parents and partners. The sample was 73 Czech adolescents aged 17 to 19. In order to obtain a complete picture of the mobile communication phenomena, three methods were used: survey, semi-structured interviews, and document analysis. As for intra- and inter-generational interactions, the findings show that SMS messages were used mostly with peers, and voice communication with parents. It was also found that through their mobile phones, particularly SMS messages, the young people were capable of building their own social networks and simultaneously redefining boundaries in their relationships with parents and partners: "Technology that creates safe zone enabling to escape from parental control, initiate or finish a relationship, experience variety of emotions or just have fun, while the physical self stays safely anchored in the living room sofa" (Vykoukalova 2007: unpaginated).

Craft (2011) also looked at the differences existed between generations with respect to their preferred communication methods. A survey instrument was created and administered to all students, staff, and faculty affiliated with a Midwest university in the United States, all of whom were requested to participate in an online survey. There were 1,652 participants: 1,214 females and 438 males. The results show that the younger generations were more likely to use technology. It was found that text messages were mostly preferred by younger people as their first means of technological communication.

2.2.3.4. SMS code-switching and age

There are almost no studies that have been designed to address the issue of age in SMS code-switching. However some of the studies discussed above do shed light on this matter. Mustafa (2011) found out that all of the subjects agreed that they code-switched in their messages according to the addressee. Her study showed that students switched either to Arabic or English according to the receiver of the message. For example, they tended to use Arabic with family members, peers and some other friends, while they used English with foreigner friends and fluent English speakers, as well as peers and colleagues who spoke good English.

Kahari (2014) found that messages were written differently in terms of age, ranging from young people to elderly people, showing that the age of the recipient was a contributing factor to language choice. The majority of the students in her study pointed out that they mainly used Shona, the language most widely spoken in Zimbabwe, when texting their parents or their grandparents as a sign of respect, and mainly English when texting their friends. For those students, Shona culture demanded they show respect to their elders through language. However, when those students texted people of their own age, they mainly utilized English because respect would not be of much importance as English language seemed to serve the communicative functions of young people more than Shona.

I would like to conclude this chapter by saying that, apart from the fact that there are rare studies that have shed light on intra- and inter-generational code-switching in SMS messages, whether Arabic-English code-switching or within any other language combinations, what adds to the uniqueness of the present study is the fact that, to the best of my knowledge, there are no other studies at all that have dealt with the relation between social class or religion and SMS code-switching. Moreover, the current research might be the first one to deal basically with gender differences in Arabic-English SMS code-switching, and could be the only one in the field of gender differences in SMS code-switching.

UNIVERSITAT ROVIRA I VIRGILI
GENDER DIFFERENCES IN SMS CODE-SWITCHING BY LEBANESE UNDERGRADUATES
Loubna Bassam

Chapter 3. Methodology

This chapter provides information on the hypotheses, definitions, and methods used in this research. In section 3.1 I present the research questions and hypotheses of this study. Section 3.2 provides definitions for the terms used in this research. In section 3.3 I introduce the participants in this study. In section 3.4 I present the education system in Lebanon. Section 3.5 presents the social classes of the students in this study. In section 3.6 I explain the data-gathering methods, which include the corpus of SMS messages, the questionnaire, and the interview. In the second part of this section I present the methods used to analyze the SMS messages, the questionnaires, and the interviews.

3.1. Research questions and hypotheses

This study is designed to answer certain questions about the phenomenon of code-switching in the SMS messages of undergraduates, both men and women. The main question is whether there are gender differences in these messages. I also test the interaction of gender and other variables such as age, social class, and religion. Thus the current study tests the following six questions:

1. Do women code-switch more than men in their SMS messages?
2. Do men and women behave differently in intra-generational and inter-generational SMS code-switching? If so, do they do it according to the following variables?
 - a) Men's and women's *intra-generational* code-switching versus men's and women's *inter-generational* code-switching.
 - b) *Women's* intra-generational code-switching versus *women's* inter-generational code-switching.
 - c) *Men's* intra-generational code-switching versus *men's* inter-generational code-switching.
 - d) Men's and women's intra-generational code-switching *with women* versus men's and women's intra-generational code-switching *with men*.

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- e) Men's and women's *inter-generational* code-switching with women versus men's and women's *inter-generational* code-switching with men.
3. Do men and women behave differently in intra-gender and inter-gender SMS code-switching?
 - Within intra-generational code-switching:
 - a) *Women's* intra-generational code-switching versus *men's* intra-generational code-switching.
 - b) Women's intra-generational code-switching *with women* versus men's intra-generational code-switching *with women*.
 - c) Women's intra-generational code-switching *with men* versus men's intra-generational code-switching *with men*.
 - d) *Women's* intra-generational code-switching with women versus *women's* intra-generational code-switching with men.
 - e) *Men's* intra-generational code-switching with women versus *men's* intra-generational code-switching with men.
 - Within inter-generational code-switching:
 - a) *Women's* inter-generational code-switching versus *men's* inter-generational code-switching.
 - b) Women's inter-generational code-switching *with women* versus men's inter-generational code-switching *with women*.
 - c) Women's inter-generational code-switching *with men* versus men's inter-generational code-switching *with men*.
 - d) *Women's* inter-generational code-switching with women versus *women's* inter-generational code-switching with men.
 - e) *Men's* inter-generational code-switching with women versus *men's* inter-generational code-switching with men.
4. Are there gender differences in SMS code-switching of different social classes?
 - Within mixed social classes:
 - a) All upper-lower class *men and women* versus all lower-middle class *men and women*.

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- b) All lower-middle class *men and women* versus all upper-middle class *men and women*.
 - c) All upper-lower class *men and women* versus all upper-middle class *men and women*.
 - Inter-gender code-switching within various social classes:
 - a) All upper-lower class *women* versus all upper-lower class *men*.
 - b) All lower-middle class *women* versus all lower-middle class *men*.
 - c) All upper-middle class *women* versus all upper-middle class *men*.
 - Intra-gender code-switching within various social classes:
 - a) All upper-lower class *men* versus all lower-middle class *men*.
 - b) All lower-middle class *men* versus all upper-middle class *men*.
 - c) All upper-lower class *men* versus all upper-middle class *men*.
 - d) All upper-lower class *women* versus all lower-middle class *women*.
 - e) All lower-middle class *women* versus all upper-middle class *women*.
 - f) All upper-lower class *women* versus all upper-middle class *women*.
 - 5. Are there gender difference in SMS code-switching between Christians and Muslims?
 - Within mixed religions:
 - a) All Christian *men and women* versus all Muslim *men and women*.
 - b) All Christian *men* versus all Muslim *men*.
 - c) All Christian *women* versus all Muslim *women*.
 - Within the same religion:
 - a) All Christian *men* versus all Christian *women*.
 - b) All Muslim *men* versus all Muslim *women*.
 - 6. Do *men and women* behave differently in messages that have no code-switching?

My investigation is primarily based on the differences I have noticed between the code-switching of young men and women in general. My first goal was to look for a possible association between code-switching in SMS messages of those young people and their gender. When working on these messages, I noticed that gender distinctions might not be the only dissimilarities between men and women, as I began to see there were other differences related to intra- and inter-generational as well as intra- and inter-gender code-switching. Moreover, I

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observed that other aspects such as socioeconomic background and religion could be related to code-switching behavior in SMS messages. Accordingly, I have decided to widen the scope of my research in search of potential correlations between SMS code-switching, on the one hand, and gender, age, social class, and religion, on the other.

In order to answer the above questions, a set of hypotheses have thus been formulated:

1. Women code-switch more than men.
2. Men and women behave differently in intra-generational and inter-generational SMS code-switching.
3. Men and women behave differently in intra-gender and inter-gender SMS code-switching.
4. There are gender differences in SMS code-switching among different social classes.
5. There are gender differences in SMS code-switching between Christians and Muslims.
6. Men and women behave differently in SMS messages that have no code-switching.

3.2. Definitions

In this section I identify terms used in this research and justify their usage.

3.2.1. Intra-generational and inter-generational code-switching

Intra-generational code-switching occurs when a subject code-switches with a sibling, a friend, a colleague, a cousin, or any other person of more or less the same age. Inter-generational code-switching takes place in the messages sent by a subject to adults such as parents, grandparents, uncles, aunts, a boss or a professor at the university.

3.2.2. Intra-gender and inter-gender code-switching

Intra-gender code-switching takes place in the messages sent by a subject to people of the same gender whereas inter-gender code-switching happens when the subject sends messages to people of the opposite gender.

3.2.3. Borrowings and code-switches

For the purpose of analyzing the data in this study, I had to distinguish instances of borrowing from those of code-switching and exclude the former (see sections 2.1.3 on borrowing and 2.1.3.1 on borrowing versus code-switching). Being an instructor myself, I have noticed that students resort to English for many words related to their studies or university life. These words have been adopted by students and have consequently been integrated into the grammatical system of their own language. The words are thus no longer foreign for them; they have become an integral part of their repertoire, and students use them spontaneously whenever needed. Most of the words have no equivalent in the students' native Arabic, and those that do are either too formal or rigid, or simply unknown to the students. Some of these words found in the students' SMS are: *drop* or *add* a course, *schedule*, *session* or *makeup session*, *lecture*, *case study*, *final*, *midterm* or *partial exam*, *quiz*, *registration*, *internship*, *doctor* or *professor*, *project*, *research*, *article*, *paper*, *outline*, *draft*, *introduction* and *conclusion*, *report*, *experiments*, *lab* or *laboratory*, *presentation*, *lecture*, *assignment*, *homework* or *graded homework*, *break*, *website*, *profile*, *graph*, *hard* or *soft copy*, *block*, *chapter*, *attendance* or *absence*, titles of their courses, etc. There are also terms that have been adopted by most Lebanese people, not only by bilingual or multilingual students: *password*, *internet*, *Wi-Fi*, *online*, *laptop*, *interview*, *master*, *email*, *dorms*, *course*, *football*, *basketball*, *valet parking*, etc. Further, there are French words that constitute an inseparable part of Lebanese language use: *café*, *bonjour*, *merci*, *bonsoir*, *stage*, *charger*, *cinema* (pronounced *ciné*), *recherché*, etc.

While going through my subjects' messages, I noticed that some people rarely code-switch yet they always resort to foreign terms for technical words or words related in any way to academic life. Sometimes the whole message is written in Arabic, basically Romanized Arabic, except for those words. Moreover, in some of the messages sent to parents, who might not

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understand English, the students use these words freely without fearing that they might not be understood. Thus these words have become borrowings or loan words and, at least for those students, cannot be considered instances of code-switching.

3.2.4. Christian and Muslim

As part of this study, I have used the religion variable to examine differences in SMS code-switching. How did I identify students as Christians or Muslims? First of all, in Lebanese society, most people can be identified with a certain religion through their names or family names. There are certain names that are only used by Muslims (such as Mohammad) or by Christians (George); there are also specific Christian or Muslim family names. Moreover, some of the participants were my students, children of my friends or their friends or relatives, and some were students of my colleagues, so I knew them either personally or via someone who knows them. In addition, all of my Christian participants, except one, were from Notre Dame University Louize (NDU), which is located in a Lebanese Christian area where almost all of the inhabitants are Christians. Thus Christian students constitute the majority in this university, although it has witnessed an increase in the number of Muslim students in the last few years. One more interesting way to identify the students was through their text messages. For example, a word such as “Salam”, an abbreviation of “As-salāmu ‘alaykum”, which means “peace be upon you”, would only be found in a Muslim’s text message, whereas a word such as “Ya, Adra” which is a kind of invocation for ‘Virgin Mary’ and is equal to “Jesus”, would only be used by a Lebanese Christian, especially a Catholic. I have thus exploited different means to identify the religion of my participants. Clearly, the variable refers to the subjects’ cultural provenance and not to their particular internalized beliefs.

3.3. Participants

The sample for the current study comprised 58 students from seven different universities: 24 men (41%) and 34 women (59%), distributed as follows:

1. Lebanese University (LU): 8 participants: 2 men and 6 women.
2. Lebanese International University (LIU): 16 participants: 8 men and 8 women.
3. Islamic University of Lebanon (IUL): 10 participants: 3 men and 7 women.
4. American University for Culture and Education (AUCE): 3 participants: 1 man and 2 women.
5. Notre Dame University (NDU): 15 participants: 7 men and 8 women.
6. Lebanese American University (LAU): 4 participants: 2 men and 2 women.
7. American University of Beirut (AUB): 2 participants: 1 man and 1 woman.

The participants were given pseudonyms to conceal their identities, and will be referred to hereafter as LIU W1, NDU M2, etc. (M stands for “man” and W for “woman”, plus the initials of the university). All of them are bilingual or multilingual Lebanese undergraduates. Their native Language is Arabic, except for two subjects: NDU M1 is a Lebanese student, but he was born and raised in France so he adopted French as his native language; LIU W4 is a Lebanese/Armenian: her native language is Armenian but she knows Arabic very well. All of them are students at Anglophone universities or English-medium private universities, except IUL and LU, which use Arabic, English, and French as languages of instruction. All of the students recruited from these two universities, except two women, were Anglophones who were studying English as their first “foreign” language and had attended English-medium pre-university schools. IUL W4 and IUL W5 had studied French as their first foreign language and attended French-medium schools, but they are both translation students and their command of English language is very good.

The subjects were divided as follows: junior: 11 women and 10 men; sophomore: 5 women and 6 men; and senior: 18 women and 8 men. They were all between the ages of 18 and 23. They came from a variety of disciplines: Humanities (14 students: 3 men and 11 women), Natural Sciences (11 students: 3 men and 8 women), Engineering and Graphic Design (15 students: 10 men and 5 women), Business and Banking (10 students: 6 men and 4 women), and other disciplines (8 students: 2 men and 6 women). In terms of religion, there were 43 Muslim students (25 women and 18 men) and 15 Christian students (9 women and 6 men). In terms of social class, the subjects were distributed as follows: upper-lower class: 2 men and 6 women, lower-middle class: 12 men and 17 women, and upper-middle class: 10 men and 11 women.

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Participation in the study was voluntary. Invitations to participate were sent via various media such as face-to-face interactions, phone calls, and emails. To inform potential participants, I gave the students background information about the study, asking them to volunteer a partial set of their SMS messages that might contain mixed Arabic and non-Arabic words and explaining to them that by “Arabic” I mean Arabic written with Arabic characters as well as Arabic words written by non-Arabic characters. The invitation was given directly if they were my students, or through mediators, if not. The mediators were mainly instructors. Some of them teach at different universities and others are colleagues who also teach at universities and who happen to be my friends. There were also undergraduate students from different universities, mostly relatives or children of my friends, who volunteered to help with my research. Most of them were also subjects in my study. For most of them, I sent an email (Appendix 4) in which I explained the steps involved in my study and what they were supposed to do. I made it clear that the messages of interest were only those sent by students, men and women, to others, as I did not have the right to share messages they had received personally from others who did not give their consent. I also made it clear from the outset that participants had the right to remove or delete any sensitive words or information they would like to protect. They were also informed about the consent form (Appendix 1), the questionnaire (Appendix 2), and the interview (Appendix 3). Upon approval, all participants were given a consent form to sign in which they agreed to participate in the research and they were assured that their text messages would be used solely for academic purposes. It was also clear for all of the subjects that for each message, I wanted them to identify the receiver; i.e. parent, brother, sister, friend, professor, cousin, manager, teammate, classmate, boss, etc., and most importantly, to identify the gender of the recipient.

3.4. The education system in Lebanon

Since the Lebanese university system largely acts here as a proxy variable for religion, social class, and language choice, some understanding is necessary of how these variables interrelate.

The education system might actually be the best reflection of Lebanese multilingualism. Most of the Lebanese schools teach Arabic, English, and French from an early age. Later on, students attend either Anglophone or Francophone universities where Arabic is rarely taught in

most of the majors, except for one course. English and French are thus the dominant languages of instruction in almost all of the Lebanese universities. Shaaban and Ghaith (1996: 104) describe the education system as follows:

despite lip service paid to the cause of Arabic, the trend to strengthen foreign languages, especially English, has continued and is underscored by decree #5589, which was passed in 1994. It stipulates that any of the foreign languages (English, French, German) may be used as an instructional language in all of Lebanon's schools, whether foreign, private or public at the pre-school and elementary levels.

Thonhauser (2000: 50) believes that "Lebanon's language situation is rooted in its educational history". In Lebanon, almost all students attend either French-medium or English-medium schools, and in most of these schools, French or English is taught as a second foreign language. For Thonhauser (2000: 50), "a brief look at the diversity of schools in Lebanon leaves no doubt that multilingualism has played and still plays a vital role in the educational sector". Recently, the traditional linguistic struggle between Arabic and French/English as languages of instruction has been replaced by another between French and English, with the advancement of the latter.

Shaaban and Ghaith (1996: 95) believe that in a country like Lebanon, "the question of what language to adopt as a medium of instruction [...] assumes religious, socio-economic, educational and political overtones". After independence, there were many attempts to strengthen the role of Arabic in Lebanese schools; however, "[t]he zeal for independent national identity made the policy makers overlook the fact that foreign languages (French and English) were deeply rooted in the Lebanese educational system". (Shaaban and Ghaith 1996: 101)

3.4.1. Universities in the study

The students in this study were from seven different Lebanese universities: the American University of Beirut (AUB), the Lebanese American University (LAU), Notre Dame University of Louaize (NDU), the Lebanese International University (LIU), the American University for Culture and Education (AUCE), the Islamic University of Lebanon (IUL), and the Lebanese

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University (LU). All of these universities are private, except for the Lebanese University, which is the only public university in Lebanon. Most of these universities adopt the American system of education; they thus have English as their main language of instruction. The Islamic University of Lebanon (IUL) nevertheless uses Arabic, French, and English as languages for teaching. The Lebanese University basically adopts the French academic model, and its primary languages of instruction are both Arabic and French. However, it has recently adopted the American system in some of its faculties, and English has become a medium of instruction for certain majors such as business, sciences and engineering; some of these majors are taught either in French or English.

The tuition fees of these universities differ considerably. The Lebanese University is almost free for Lebanese citizens. The American university of Beirut (AUB) and the Lebanese American University (LAU) are the most expensive universities in Lebanon, with tuition fees that range from 662 to 800 US dollars per credit. At Notre Dame University the per-credit cost is between 333 and 400 US dollars. Although it is almost half the price at AUB and LAU, it is still unaffordable for most Lebanese students. The tuition fees per credit range between 139 and 185 US dollars at the Lebanese International University (LIU), 160 US dollars at the American University for Culture and Education (AUCE) and between 67 and 153 US dollars at the Islamic University of Lebanon (IUL). However, these universities are still beyond the budget of a good portion of Lebanese students. The aforementioned are the undergraduate tuition fees for the academic year 2016-2017 found on the websites of these universities and based on the common majors in these universities.

Kleit (2012: unpaginated) notes that “[t]here is a big difference between who takes the van to reach the Sciences Faculty of the LU in al-Hadath region, who waits for a taxi on the uphill of Salim Slem near the LIU, and who is bothered for not finding a place to park his new car at the LAU campus.” Kleit believes that the social class of Lebanese universities is the result of politics and social status, and that “[t]he academic institutes suppress communal differences, resulting in the expansion of each college from within its own public, based on capital income and standards of living”. Kleit draws a comparison between the tuition fees of the universities: “In numbers, LAU business students pay \$42240 in their three academic years, LIU’ers deposit \$12375, one third of its predecessor. While as LU students pay an amount of \$399, which is almost the same as three months’ expenses on taxis for LAU students” (Kleit 2012: unpaginated). Kleit (2012) further refers to estimates in a study by Information International, a

leading Lebanese research consultancy firm, which states that 54.5% of LAU students had a monthly income of between \$1000 and 2000, whereas fewer than 4.5% had less than \$1000 of income. However, 61.1% of the families of LU students had an income of less than \$1000. In Lebanese ideology, according to Kleit (2012), “LU is the home of the poor, and other colleges are for the rich, this created a self-belief in the situation until it became a norm”. Kleit (2012) illustrates this by presenting the opinions of students at these universities. An LU student said that “people call her poor when they realize she’s an LU student”; an LIU student stated that perhaps “LIU is no AUB, because I can’t afford it, but it’s no LU, regardless of the level of the degree”. On the other hand, another said that being an LAU student “resembles her social environment”.

3.5. Social classes

On the whole, sociologists classify the social class of people in line with socioeconomic factors such as their occupation, income, or level of education. Barkan (2016: 249) believes that a social class can be measured “either objectively or subjectively”. The objective method is based on the classification of people “according to one or more criteria, such as their occupation, education, and/or income”. He believes it is the researcher “who decides which social class people are in based on where they stand in regard to these variables”. As for the subjective classification, it means asking people what class they *think* they are in. He believes that other factors such as the “lifestyle, the schools people’s children attend, a family’s reputation in the community, how ‘old’ or ‘new’ people’s wealth is” contribute to the classification of people’s social classes (Barkan 2016: 250-1). According to Lenin (1974: 421):

Classes are large groups of people differing from each other by the place they occupy in a historically determined system of social production, by their relation (in most cases fixed and formulated in law) to the means of production, by their role in the social organisation of labour, and, consequently, by the dimensions of the share of social wealth of which they dispose and the mode of acquiring it. Classes are groups of people one of which can

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appropriate the labour of another owing to the different places they occupy in a definite system of social economy.

As for the social classes of the students in the sample of this study, I have classified them with regard to the university they are enrolled in, in terms of tuition fees, their parents' occupation, as well as their parents' highest level of education. Based on these factors and the social classifications suggested by Warner and Barkan, the subjects have been assigned into the following social classes: upper-middle class, lower-middle class, and upper-lower class, also known as working class. Warner (1957) develops a stratum social model in which he divides each of the major social classes (upper, medium, and lower) into further subdivisions, upper and lower. Barkan (2016: 252-3) identifies the upper-middle class as people who “typically have college and, very often, graduate or professional degrees; live in the suburbs or in fairly expensive urban areas; and are bankers, lawyers, engineers, corporate managers, and financial advisers, among other occupations”. According to him, lower-middle class people “typically work in white-collar jobs as nurses, teachers, and the like. Many have college degrees, usually from the less prestigious colleges, but many also have 2-year degrees or only a high school degree”, and can “send their children to expensive colleges only if they receive significant financial aid”. As for the working-class or upper-lower class, they usually “work in blue-collar jobs such as factory work, construction, restaurant serving, and less skilled clerical positions [...] typically do not have 4-year college degrees, and some do not have high school degrees [and they] are far less likely [...] to send their children to college” (Barkan 2016: 252-3).

Within this social framework and with regard to the universities they attended, I have distributed the subjects of my study into the following social classes:

- 1- Upper-middle class: AUB, LAU and NDU students
- 2- Lower-middle class: LIU, IUL and AUCE students
- 3- Upper-lower class: LU students

3.6. Methods

3.6.1. Data-gathering methods

This part of the study discusses the data collection that took place after introducing students to the study and receiving their consent. The data for this study were collected using three methods. The first was a corpus of SMS text messages, the second was a questionnaire, and the third was an interview. The questionnaire and the interview had some questions in common. This was in order to draw a comparison between the answers, and thus to assure that students had fully understood the questions. The questions in the questionnaire and interview were adopted, with some modifications, from the studies done by Al-khatib and Sabbah (2008), Alenezi (2010), and Ayeomoni (2006). The corpus was collected during Fall 2011- 2012 and Spring 2012- 2013.

3.6.1.1. Corpus of SMS messages

In this section I will examine the corpus of 1680 SMS messages gathered from a convenience sample of 58 Lebanese students. There were 1013 messages (60%) from women and 667 messages (40%) from men.

Code-switching is best studied in a natural environment. Labov (1972: 199) stresses the importance of such naturally occurring data; he believes that “[i]f we are to make good use of speakers’ statements about language, we must interpret them in the light of unconscious, unreflecting productions”, and that this is the only way to avoid “dubious data”. The code-switching in the randomly retrieved messages should thus be a reflection of the students’ everyday linguistic interactions. To guarantee “natural communicating settings”, the students were asked to volunteer the exact messages they had sent within a time span of two weeks to one month. However, not all of them were capable of submitting the messages sent during this period of time, either because they were not used to saving messages for one reason or another, or because they were not heavy users of SMS messages and thus preferred phoning or using other communication devices.

The data were gathered via different means. Most of the students sent their messages by email; others printed them out and handled them to me; some forwarded the messages directly to my mobile. One student gave me her old mobile phone, saying she did not want it anymore and

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inviting me to take whatever messages I wanted. Due to the private and sensitive nature of SMS messages, some of the subjects were hesitant to participate in the study; some of them even refused to take part, even though they were assured that the anonymity and confidentiality of their messages would be totally guaranteed. Some of them were very interested and even curious about the results of the research.

The number of messages received varied significantly: I obtained 89 messages from one of the students and only four messages from another. This could be due to the fact that some students were more cooperative than others and thus contributed more messages, or it might be simply because they were the only messages they had back then. The average number of SMS messages received per subject was 28 for men and 30 for women. As mentioned above, the participants were required to submit messages they had sent to different recipients from different genders and from different ages, and, for ethical reasons, none of the messages they had received.

3.6.1.2. Questionnaire

The questionnaire was a mixture of self-report and opinion questions. It was designed to gather as much data as possible about the students and to test their code-switching behavior in general and their SMS code-switching in particular. The questionnaire was given to the students in order to ensure they understood the questions, along with two copies of the consent form. Both copies were to be signed by the participant and by me, and each party kept a copy. My personal phone number in addition to my email were written in the consent form, and students were told to feel free to contact me should they have any further questions or concerns about the research. The students, who already had a sufficient idea about the purpose of research, were given clear instructions prior to responding to the questionnaire. The questionnaire was written in English; however, the questions were further explained to the students in Arabic.

The total number of questions was 15, and they were divided into three parts. The first part consisted of six questions that addressed the students' use of English in SMS messages. The second part was composed of four questions on code-switching. The third part was made up of six questions that were tailored to elicit data on language use and acquisition. The first ten questions were Likert-type whereas the other five questions were for self-report data.

The questionnaire was either delivered by hand or sent by email. The students were given the choice to fill out the questionnaire at the university or outside, and return it by hand or email. Some of the students handed in or emailed the questionnaire together with their SMS messages, while others submitted their messages when they came to the interview.

The responses to the questionnaire were checked and analyzed before conducting the interview, so as to ask the students about ambiguous or missing data and to make sure they had understood the questions. Moreover, some of the questions in the questionnaire and the interview were designed to elicit the same data for the purpose of obtaining meticulous and punctilious responses regarding their SMS code-switching behavior. Later these questions were carefully compared.

3.6.1.3. Interviews

Not long after the questionnaire I interviewed the 58 participants. This was in order to triangulate the study and obtain more in-depth responses, complementing the other two methods of data collection. The semi-structured interviews were conducted to elicit direct information from the participants and to capture a more complete scenario of any possible reasons behind gender differences in SMS code-switching. It was divided into five sections: personal information, language background, SMS language use, reading language, and “future” language. The students were given briefings about the interviews in advance and this was also mentioned in the consent form. The participants were also told beforehand that the interviews would be tape-recorded, and again they were assured of complete confidentiality. The appointments for the interviews were carried out via phone calls, messages, emails, or face-to-face agreements.

The interviews took place in quiet classes or offices within the universities where the students were enrolled, and most of the times they were conducted in breaks between lectures. On average, each interview lasted about twenty to twenty-five minutes; however, one of the interviews lasted for some forty-five minutes. The participants were given the choice to respond either in Arabic or in English; however, there were frequent instances of code-switching in almost all the interviews, as is totally normal in multilingual Lebanese settings. The interviews were conducted in an informal friendly atmosphere, and thus the participants were motivated to share their data willingly. Some of them were enthusiastic to share whatever piece of information they had, since they were interested in the topic of the research and eager to know the results.

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Although the whole interview process was recorded, while they were answering the questions I wrote down the most interesting and important notes, especially those related to the participants' characters and their code-switching behavior with the opposite gender.

3.6.2. Data-analysis methods

This part of the study presents the methods of data analysis. A corpus that consists of 1680 messages (775 messages with code-switching and 905 messages without code-switching) with a total of 9358 words in code-switching messages should be large enough to reveal some solid information about gender in SMS communication. Analysis was primarily focused on testing gender differences and their interactions with age, social class, and religion. The data were analyzed to determine the percentages and the frequencies of these relations. Data analysis was carried out both quantitatively and qualitatively. Percentages were used to show how frequently code-switching between Arabic and English was used by men and women in their text messages, and to shed some light on how the sociocultural backgrounds of participants, together with their gender, affected the code-switching.

The transcription of the interview data, which was done by the researcher alone, was tailored to propose relevant, clear, comprehensible interpretations of SMS code-switching of young people.

The SMS data were subjected to quantitative as well as qualitative textual analysis; the questionnaire was examined in terms of descriptive statistics; the semi-structured interview data were decoded, transcribed, and analyzed qualitatively. The results were placed into tables and figures, which were numbered and titled.

3.6.2.1. SMS messages

The corpus of SMS messages was analyzed and checked manually according to the research questions and hypotheses, and then the findings were transformed into contingency tables. Each and every message was considered as a whole unit of analysis that communicates and carries out certain functions or purposes. In an attempt to better understand the gender differences in text messages, the messages were analyzed and interpreted in relation to the sociocultural backgrounds of the participants.

As mentioned, data analysis involved triangulation of quantitative and qualitative data. The messages were first separated and categorized by gender and then classified into the following categories: intra- and inter-gender, intra- and inter-generational, social class, and religion. There were also sub-categories for the percentages of Arabic, English, French, and other languages in code-switching messages, the frequency of switches in code-switching messages, and the language of messages that had no code-switching. The data analysis for this study was carried out manually for the percentages of occurrences and frequencies of switches, and all instances of code-switching were identified and counted. In addition, the average number of words per message was calculated, particularly Arabic and English words.

The quantitative data from SMS messages were analyzed using SPSS. With regard to data analysis for research questions, descriptive statistics such as means, standard deviations, minimum and maximum scores were calculated. Also, a series of independent-samples *t*-tests were carried out. Before conducting each *t*-test, I made sure that the data collected were normally distributed within each of the two sample groups.

3.6.2.2. Questionnaire

The data taken from the questionnaire were checked, analyzed, calculated, and interpreted. The results then were cross-tabulated in contingency tables, and each table was titled and numbered. The results were analyzed and coded step by step using a descriptive statistical analysis of percentages, mainly of the background items. The first ten Likert-type questions were analyzed by summarizing the responses in terms of the background items and calculating the percentages. For the last five self-report questions, the responses were categorized and summarized. The results of the questionnaire were discussed and explained. Finally, the databases were compared to each other and the results were given in contingency tables.

3.6.2.3. Interview

The interviews were tape-recorded, reviewed and summarized for transcription purposes and then analyzed by developing coding strategies, trying to identify concepts and categories in the data. A set of codes was established and the data were examined and labeled accordingly. The data were then calculated, plotted, and distributed in bar charts. In order to draw conclusions, the transcriptions were analyzed and compared to the notes taken by the researcher during the

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interviews. The data were then scrutinized further and percentages were calculated against background items. Finally, the charts were given titles and numbers.

Chapter 4. Results

This chapter presents the analysis of the data collected from SMS messages, interviews and questionnaires of the 58 participants. Section 4.1 uses descriptive statistics to analyze the quantitative and qualitative data collected from the students' SMS messages; it presents the results of the statistical analysis carried out for all pertinent variables. The purpose of section 4.2 is to present the results of the questionnaire data. Section 4.3 summarizes the results of the interview data.

The present study addresses the following questions:

1. Do women code-switch more than men in their SMS messages?
2. Do men and women behave differently in intra-generational and inter-generational SMS code-switching?
3. Do men and women behave differently in intra-gender and inter-gender SMS code-switching?
4. Are there gender differences in SMS code-switching of different social classes?
5. Are there gender differences in SMS code-switching between Christians and Muslims?
6. Do men and women behave differently in messages that have no code-switching?

The first five sections address each of these questions in turn, while the results of question six, "Do men and women behave differently in messages that have no code-switching?", are dealt with in sections three to five. In addition to the results of question six, sections three to five trace the frequency of switches and the percentages of Arabic, English French and other languages in code-switching messages. Questions two to five are further divided into sets of correlations. The last section presents some notable findings from the students' SMS messages.

4.1. Findings of SMS messages data

The SMS messages in my sample were collected from 58 subjects (34 women and 24 men) from seven different Lebanese universities. The main purpose of this study was to investigate gender differences in the SMS code-switching of Lebanese undergraduates. It also aimed at finding

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possible differences in another three variables; age, social class and religion, as secondary purposes.

4.1.1. "Do women code-switch more than men in their SMS messages?"

Table 1 shows that men and women use code-switching in 46% of their messages, and that out of all the code-switching messages, the percentage by women is 52% while it is 38% for men. An independent-sample *t*-test was conducted to examine whether the men and women differed significantly in code-switching. The women code-switched significantly more ($M= 53.90$, $SD= 21.29$) than the men ($M= 39.80$, $SD= 27.60$), with $p= 0.042$.

Table 1. Code-switching messages of all men and women (58 subjects)

	Men and Women	Women	Men
Code-switching messages	775/1680	524/1013	251/667
Percent	46%	52%	38%

4.1.2. "Do men and women behave differently in intra-generational and inter-generational SMS code-switching?"

To find out if there are differences in intra- and inter-generational code-switching of men and women, a set of correlations was tested. The first section of these correlations deals with intra- and inter-generational code-switching of all men and women together, while sections 2 and 3 trace whether there are differences in intra- and inter-generational code-switching separately.

4.1.2.1. Intra and inter-generational code-switching

Table 2. Numbers and percentages of intra- and inter-generational code-switching by gender

	Men and Women	Women	Men
Intra-generational	659 (85)	442 (84)	217 (86)
Inter-generational	97 (13)	63 (12)	34 (14)

Table 2 shows the percentages of intra-generational and inter-generational code-switching by women and men. In all categories, it is obvious that intra-generational code-switching exceeds inter-generational code-switching very significantly. Within intra-generational

code-switching, the percentage of code-switching was 85% for men and women together, 84% for women and 86% for men. As for inter-generational code-switching, the percentages were 13% for men and women together, 12% for women and 14% for men. In two categories, men and women together and women, the percentages do not add to 100 due to the fact that the recipients of some code-switching messages were unknown, so I could not say whether they were men or women. There were 21 code-switching messages in this category: 20 sent by women and one by a man.

These results are specified in the following three correlations, where differences in intra- and inter-code-switching of men and women are shown clearly.

4.1.2.1.1. Men's and women's intra-generational code-switching versus men's and women's inter-generational code-switching. An independent-sample *t*-test was conducted to examine whether the intra-generational and inter-generational variables differed significantly in code-switching of men and women. Men and women code-switched significantly more ($M= 82.60$, $SD= 21.25$) in intra-generational code-switching than inter-generational code-switching ($M= 13.74$, $SD= 17.91$), with $p < 0.001$.

4.1.2.1.2. Women's intra-generational code-switching versus women's inter-generational code-switching. Another independent-sample *t*-test was conducted to examine whether the intra-generational and inter-generational variables differed significantly in code-switching. Women code-switched significantly more ($M= 83.53$, $SD= 18.90$) in intra-generational code-switching than they did in inter-generational code-switching ($M= 13.38$, $SD= 18.80$), with $p < 0.001$.

4.1.2.1.3. Men's intra-generational code-switching versus men's inter-generational code-switching. An independent-sample *t*-test was conducted to examine whether the intra-generational and inter-generational variables differed significantly between the intra-generational and inter-generational code-switching of men. Men code-switched significantly more ($M= 81.25$, $SD= 24.57$) in intra-generational code-switching than inter-generational code-switching ($M= 25.38$, $SD= 17.92$), with $p < 0.001$.

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4.1.2.2. Intra-generational code-switching

Table 3 shows the intra- and inter-generational code-switching of all men and women with men and women. Within intra-generational code-switching, the 58 subjects code-switched with women significantly more (67%) than they did with men (33%).

Table 3. Intra and intra-generational code-switching by gender (58 subjects)

	Men and Women	Women	Men
Intra-generational	659 (100%)	442 (67%)	217 (33%)
Inter-generational	97 (100%)	63 (65%)	34 (35%)

4.1.2.2.1. Men's and women's intra-generational code-switching with women versus men's and women's intra-generational code-switching with men. An independent-sample *t*-test was conducted to examine whether men and women's intra-generational code-switching with women differed significantly from their intra-generational code-switching with men. Men and women code-switched significantly more with women ($M= 57.72$, $SD= 30.60$) than they did with men ($M= 41.76$, $SD= 30.50$), with $p= 0.006$.

4.1.2.3. Inter-generational code-switching

Table 3 also shows that within inter-generational code-switching, both men and women code-switched much more with women (65%) than they did with men (35%).

4.1.2.3.1. Men's and women's inter-generational code-switching with women versus men's and women's inter-generational code-switching with men. An independent-sample *t*-test was conducted to examine whether men's and women's inter-generational code-switching with women and men's and women's inter-generational code-switching with men differed significantly. Men and women code-switched significantly more ($M= 41.97$, $SD= 46.19$) with women in inter-generational code-switching than they did with men in inter-generational code-switching ($M= 16.66$, $SD= 32.68$), with $p= 0.001$.

4.1.3. “Do men and women behave differently in intra-gender and inter-gender SMS code-switching?”

To find out if there are differences between the intra- and inter-gender code-switching of men and women, a set of correlations was tested. The first section of these correlations deals with intra- and inter-gender code-switching of men and women within intra-generational code-switching, while the second tests whether there are differences in intra- and inter-gender code-switching within inter-generational code-switching.

Table 4. Intra and intra-generational code-switching by gender (34 subjects)

	Women	Women	Men
Intra-generational	442 (100%)	336 (76%)	106 (24%)
Inter-generational	63 (100%)	43 (68%)	20 (32%)

Table 4 shows the intra- and inter-generational code-switching of all women (34 subjects). Within intra-generational code-switching, women code-switched with women significantly more (76%) than they did with men (24%). It was almost the same in inter-generational code-switching, where women code-switched much more with women (68%) than they did with men (32%).

Table 5. Intra and intra-generational code-switching by gender (24 subjects)

	Men	Women	Men
Intra-generational	217 (100%)	107 (49%)	110 (51%)
Inter-generational	34 (100%)	25 (74%)	9 (26%)

Table 5 shows the intra- and inter-generational code-switching of all men (24 subjects). Within intra-generational code-switching, there is almost no difference between men and women: men code-switched 49% with women and 51% with men. However, in inter-generational code-switching, men code-switched significantly more with women (74%) than they did with men (26%).

4.1.3.1. Intra and inter-gender code-switching within intra-generational code-switching

The following correlations show intra- and inter-gender code-switching within the intra-generational code-switching of both men and women.

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4.1.3.1.1. Women's intra-generational code-switching versus men's intra-generational code-switching. I compared the degree of women's intra-generational code-switching ($M= 83.53$, $SD= 18.90$) and men's intra-generational code-switching ($M= 81.25$, $SD= 24.57$), but I found no significant difference ($p= 0.691$).

4.1.3.1.2. Women's intra-generational code-switching with women versus men's intra-generational code-switching with women. An independent-sample t -test was conducted to examine whether the intra-gender and inter-gender variables differed significantly in the intra-generational code-switching of men and women. Women code-switched with women significantly more ($M= 67.74$, $SD= 27.42$) in intra-generational code-switching than men code-switched with women in intra-generational code-switching ($M= 43.54$, $SD= 29.72$), with $p= 0.002$.

4.1.3.1.3. Women's intra-generational code-switching with men versus men's intra-generational code-switching with men. An independent-sample t -test was conducted to examine whether the intra-gender and inter-gender variables differed significantly in the intra-generational code-switching of men and women. Women code-switched less with men ($M= 31.38$, $SD= 26.90$) in intra-generational code-switching than in intra-generational code-switching ($M= 56.46$, $SD= 29.72$), with $p= 0.002$.

4.1.3.1.4. Women's intra-generational code-switching with women versus women's intra-generational code-switching with men. An independent-sample t -test was conducted to examine whether the intra-gender and inter-gender variables differed significantly in intra-generational code-switching of women. Women code-switched significantly more with women ($M= 67.74$, $SD= 27.42$) than with men in intra-generational code-switching ($M= 31.38$, $SD= 26.90$), with $p < 0.001$.

4.1.3.1.5. Men's intra-generational code-switching with women versus men's intra-generational code-switching with men. I compared the degree of men's intra-generational code-switching with women ($M= 43.54$, $SD= 29.72$) and men's intra-generational code-switching with men ($M= 56.46$, $SD= 29.72$), but I found no significant difference ($p= 0.139$).

4.1.3.2. *Intra- and inter-gender code-switching within inter-generational code-switching*

The following correlations show intra- and inter-gender code-switching within the inter-generational code-switching of both men and women.

4.1.3.2.1. *Women's inter-generational code-switching versus men's inter-generational code-switching.* I compared women's inter-generational code-switching ($M= 13.38$, $SD= 18.18$) and men's inter-generational code-switching ($M= 14.25$, $SD= 17.92$), but I found no significant difference ($p= 0.858$).

4.1.3.2.2. *Women's inter-generational code-switching with women versus men's inter-generational code-switching with women.* I compared women's inter-generational code-switching with women ($M= 45.91$, $SD= 44.98$) and men's inter-generational code-switching with women ($M= 36.38$, $SD= 48.26$), but I found no significant difference ($p= 0.444$).

4.1.3.2.3. *Women's inter-generational code-switching with men versus men's inter-generational code-switching with men.* I compared women's inter-generational code-switching with men ($M= 12.91$, $SD= 24.97$) and men's inter-generational code-switching with men ($M= 21.96$, $SD= 41.26$), but I found no significant difference ($p= 0.345$).

4.1.3.2.4. *Women's inter-generational code-switching with women versus women's inter-generational code-switching with men.* A *t*-test was conducted to examine whether the intra-gender and inter-gender variables differed significantly in the inter-generational code-switching of women. Women code-switched significantly more with women ($M= 45.91$, $SD= 44.98$) than with men ($M= 12.91$, $SD= 24.97$) in inter-generational code-switching, with $p < 0.000$.

4.1.3.2.5. *Men's inter-generational code-switching with women versus men's inter-generational code-switching with men.* I compared men's inter-generational code-switching with women ($M= 36.38$, $SD= 48.26$) and men's inter-generational code-switching with men ($M= 21.96$, $SD= 41.26$), but I found no significant difference ($p= 0.272$).

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4.1.3.3. Percentage of Arabic, English, French and other languages in code-switching messages

Table 6. Presence of Arabic, English, French and other languages in code-switching messages of all men and women (58 subjects)

	Arabic	English	French	Other	Total
Words	5839	3233	154	132	9358
Percentage	62	35	2	1	100

Table 6 shows the numbers of words in Arabic, English, French and other languages in the messages of all men and women. There are 5839 Arabic words (62%), 3233 English words (35%), 154 French words (2%) and 132 words from other languages (1%), German and Armenian. LU W1 is a fluent speaker of German because her mother is German, and she uses it in messages sent to her mother and her uncle. LIU W4 is Lebanese Armenian, and thus her native language is Armenian.

Table 7. Presence of Arabic, English, French and other languages in code-switching messages by women (34 subjects)

	Arabic	English	French	Other	Total
Words	4021	2090	131	132	6374
Percentage	63	33	2	2	100

Table 7 shows the numbers of words in Arabic, English, French and other languages in the messages of all women. There are 4021 Arabic words (63%), 2090 English words (33%), 131 French words (2%) and 132 words from other languages (1%).

Table 8. Presence of Arabic, English, French and other languages in code-switching messages by men (24 subjects)

	Arabic	English	French	Other	Total
Words	1818	1143	23	0	2984
Percentage	61	38	1	0	100

Table 8 shows the numbers of words in Arabic, English, French and other languages in the messages of all men. There are 1818 Arabic words (61%), 1143 English words (38%) and 23 French words (1%).

4.1.3.4. Frequency of switches in code-switching messages

Table 9. Frequency of switches in code-switching messages of all men and women (58 subjects)

	Words	Switches	Switches by words
Women	6374	1376	4.6
Men	2984	641	4.6
Men and women	9358	2017	4.6

Table 9 shows the frequency of switches in the code-switching messages of women, men, and all men and women. This frequency was calculated by dividing the total number of words in code-switching messages by the inter-language switches made by subjects. It is obvious that there is no difference in the frequency of switches between men and women, since the frequency of words per switch is 4.6 for all groups.

4.1.3.5. Languages of messages that have no code-switching

Table 10. Language of messages that have no code-switching, men and women (58 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	583	54	236	20	12	905
Percentage	65	6	26	2	1	100

Table 10 shows the language of men's and women's messages that have no code-switching. The total number of messages written in Romanized Arabic and Arabic script is 637 messages, constituting 71% of all code-switching messages of both men and women. The majority of Arabic messages are written in Romanized script (65%) while those written in Arabic script do not exceed 6%. As for English messages, they constitute 26% of all messages without code-switching, while the percentage of French messages is 2% and it is 1% for messages written in German and Armenian.

Table 11. Language of messages that have no code-switching by women (34 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	332	20	115	9	12	488
Percentage	68	4	24	2	2	100

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Table 11 shows the language of women’s messages that have no code-switching. The total number of messages written in Romanized Arabic and Arabic script is 352, comprising 72% of all women’s messages without code-switching. The majority of Arabic messages are written in Romanized script (68%) while those written in Arabic script do not exceed 4%. English messages constitute 24% of all messages without code-switching. The percentage of French messages is 2% and 2% of the messages are in German and Armenian.

Table 12. Language of messages that have no code-switching by men (24 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	251	33	121	11	0	416
Percentage	60	8	29	3	0	100

Table 12 shows the language of men’s messages that have no code-switching. The total number of messages written in Romanized Arabic and Arabic script is 284 and they constitute 68% of all men’s messages without code-switching. The majority of Arabic messages are written in Romanized script (60%), while those written in Arabic script do not exceed 8%. As for English messages, they constitute 29% of all messages without code-switching. The percentage of French messages is 3% and there are no messages written in other languages.

4.1.4. “Are there gender differences in SMS code-switching of different social classes?”

To find out if there are differences in the code-switching of men and women from different social classes, a set of correlations was tested. The first section of these correlations deals with code-switching in mixed social classes; section 2 deals with inter-gender code-switching in different social classes, and section 3 traces differences in intra-gender code-switching in different social classes.

Table 13. Percentage of code-switching messages in total messages, by gender and by social class

	Women	Men	Men and women
Upper-lower class	45	15	37
Lower-middle class	55	50	53
Upper-middle class	48	28	38

Table 13 shows the percentage of code-switching messages in messages by women, men, and men and women together, in different social classes. Within the upper-lower class, there are six women and two men. The percentage of women's code-switching is 45% while it is only 15% for men, and it is 37% for both. Within the lower-middle class, there are 17 women and 12 men. The percentage of code-switching is 55% for women, 50% for men, and 53% for both. As for the upper-middle class, there are 11 women and ten men. The percentage of their code-switching is 48% for women, 28% for men and 38% for both men and women.

4.1.4.1. Men's and women's code-switching in mixed social classes

The following correlations show code-switching of both men and women in mixed social classes.

4.1.4.1.1. All upper-lower class men and women versus all lower-middle class men and women. I compared the degree of code-switching by upper-lower class men and women ($M= 39.75$, $SD= 27.36$) and by lower-middle class men and women ($M= 56.45$, $SD= 25.03$), but I found no significant difference ($p= 0.110$).

4.1.4.1.2. All lower-middle class men and women versus all upper-middle class men and women. An independent-sample t -test was conducted to examine whether the lower-middle class men and women and upper-middle class men and women differed significantly in their frequency of code-switching. Lower-middle class men and women ($M= 56.45$, $SD= 25.03$) code-switched significantly more than upper-middle class men and women ($M= 40.62$, $SD= 21.39$), with $p= 0.023$.

4.1.4.1.3. All upper-lower class men and women versus all upper-middle class men and women. I compared the degree of code-switching by upper-lower class men and women ($M= 39.75$, $SD= 27.36$) and upper-middle class men and women ($M= 40.62$, $SD= 21.39$), but I found no significant difference ($p= 0.928$).

4.1.4.2. Men's and women's inter-gender code-switching in different classes

The following correlations concern the inter-gender code-switching of men and women in the various social classes.

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Table 14. Percentage of code-switching by upper-lower class men and women (8 subjects)

	Code-switching messages	Percent
Women (6)	61/136	45
Men (2)	8/52	15

Table 14 shows the code-switching by upper-lower class men and women. The percentage of code-switching is 45% for women and 15% for men.

4.1.4.2.1. *All upper-lower class women versus all upper-lower class men.* An independent-sample *t*-test was conducted to examine whether the upper-lower class women and upper-lower class men differed significantly in their frequency of code-switching. Upper-lower class women ($M= 47.33$, $SD= 27.42$) code-switched significantly more than upper-lower class men ($M= 17.00$, $SD= 9.90$), with $p= 0.0193$.

Table 15. Percentage of code-switching by lower-middle class men and women (29 subjects)

	Code-switching messages	Percent
Women (17)	321/580	55
Men (12)	162/325	50

Table 15 shows the code-switching of lower-middle class men and women. The percentage of code-switching is 55% for women and 50% for men.

4.1.4.2.2. *All lower-middle class women versus all lower-middle class men.* I compared the degree of lower-middle class women code-switching ($M= 59.53$, $SD= 18.50$) and lower-middle class men code-switching ($M= 52.08$, $SD= 32.58$), but I found no significant difference ($p= 0.485$).

Table 16. Percentage of code-switching by upper-middle class men and women (21 subjects)

	Code-switching messages	Percent
Women (11)	142/297	48
Men (10)	81/290	28

Table 16 shows code-switching of upper-middle class men and women. The percentage of code-switching is 48% for women and 28% for men.

4.1.4.2.3. *All upper-middle class women versus all upper-middle class men.* I compared the degree of upper-middle class women code-switching ($M= 48.73$, $SD= 21.96$) and upper-middle class men code-switching ($M= 31.70$, $SD= 17.68$), but I found no significant difference ($p= 0.067$).

4.1.4.3. *Men's intra-gender code-switching in different classes*

The following correlations show intra-gender code-switching of men in mixed social classes.

4.1.4.3.1. *All upper-lower class men versus all lower-middle class men.* I compared the degree of upper-lower class men code-switching ($M= 17.00$, $SD= 9.90$) and lower-middle class men code-switching ($M= 52.08$, $SD= 32.58$), but I found no significant difference ($p= 0.168$).

4.1.4.3.2. *All lower-middle class men versus all upper-middle class men.* I compared the degree of lower-middle class men code-switching ($M= 52.08$, $SD= 32.58$) and upper-middle class men code-switching ($M= 31.70$, $SD= 17.68$), but I found no significant difference ($p= 0.079$).

4.1.4.3.3. *All upper-lower class men versus all upper-middle class men.* I compared the degree of upper-lower class men code-switching ($M= 17.00$, $SD= 9.90$) and upper-middle class men code-switching ($M= 31.70$, $SD= 17.68$), but I found no significant difference ($p= 0.292$).

4.1.4.4. *Women's intra-gender code-switching in different classes*

The following correlations show intra-gender code-switching of women in mixed social classes.

4.1.4.4.1. *All upper-lower class women versus all lower-middle class women.* I compared the degree of upper-lower class women code-switching ($M= 47.33$, $SD= 27.42$) and lower-middle class women code-switching ($M= 59.53$, $SD= 18.50$), but I found no significant difference ($p= 0.234$).

4.1.4.4.2. *All lower-middle class women versus all upper-middle class women.* I compared the degree of lower-middle class women code-switching ($M= 59.53$, $SD= 18.50$) and upper-middle

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class women code-switching ($M= 48.73$, $SD= 21.60$), but I found no significant difference ($p= 0.173$).

4.1.4.4.3. *All upper-lower class women versus all upper-middle class women.* I compared the degree of upper-lower class women code-switching ($M= 47.33$, $SD= 27.42$) and upper-middle class women code-switching ($M= 48.73$, $SD= 21.60$), but I found no significant difference ($p= 0.861$).

4.1.4.5. *Percentage of Arabic, English, French and other languages in code-switching messages*

Table 17. Presence of Arabic, English, French and other languages in code-switching messages by upper-lower class women (6 subjects)

	Arabic	English	French	Other	Total
Words	371	201	0	0	572
Percentage	65	35	0	0	100

Table 17 shows the number of Arabic, English, French and other languages words in the messages of all upper-lower class women with their percentages. There are 371 Arabic words (65%) and 201 English words (35%).

Table 18. Presence of Arabic, English, French and other languages in code-switching messages by lower-middle class women (17 subjects)

	Arabic	English	French	Other	Total
Words	2882	1175	71	132	4260
Percentage	68	27	2	3	100

Table 18 shows the number of Arabic, English, French and other languages words in the messages of all lower-middle class women with their percentages. There are 2882 Arabic words (68%), 1175 English words (27%), 71 French words (2%) and 132 Armenian words (3%).

Table 19. Presence of Arabic, English, French and other languages in code-switching messages by upper-middle class women (11 subjects)

	Arabic	English	French	Other	Total
Words	768	714	60	0	1542
Percentage	50	46	4	0	100

Table 19 shows the number of Arabic, English, French and other languages words in the messages of all upper-middle class women with their percentages. There are 768 Arabic words (50%), 714 English words (46%) and 60 French words (4%).

Table 20. Presence of Arabic, English, French and other languages in code-switching messages by upper-lower class men (2 subjects)

	Arabic	English	French	Other	Total
Words	30	19	0	0	49
Percentage	61	39	0	0	100

Table 20 shows the number of Arabic, English, French and other languages words in the messages of all upper-lower class men with their percentages. There are 30 Arabic words (61%) and 19 English words (39%).

Table 21. Presence of Arabic, English, French and other languages in code-switching messages by lower-middle class men (12 subjects)

	Arabic	English	French	Other	Total
Words	1455	896	5	0	2356
Percentage	62	38	0	0	100

Table 21 shows the number of Arabic, English, French and other languages words in the messages of all lower-middle class men with their percentages. There are 1455 Arabic words (62%), 896 English words (38%) and 5 French words (0%).

Table 22. Presence of Arabic, English, French and other languages in code-switching messages by upper-middle class men (10 subjects)

	Arabic	English	French	Other	Total
Words	333	228	18	0	579
Percentage	58	39	3	0	100

Table 22 shows the number of Arabic, English, French and other languages words in the messages of all upper-middle class men with their percentages. There are 333 Arabic words (58%), 228 English words (39%) and 18 French words (3%).

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4.1.4.6. Frequency of switches in code-switching messages

Table 23. Frequency of switches in code-switching messages by gender and social class by upper-lower class men and women (8 subjects)

	Words	Switches	Switches by words
Women	572	131	4.3
Men	49	11	4.5
Men and women	621	142	4.3

Table 23 shows the frequency of switches in code-switching messages of all upper-lower class women, men, and all men and women. The frequency of switches of women is 4.3, 4.5 for men, and 4.3 words per switch for all men and women.

Table 24. Frequency of switches in code-switching messages by gender and social class by lower-middle class men and women (29 subjects)

	Words	Switches	Switches by words
Women	4258	829	5.1
Men	2356	506	4.7
Men and women	6614	1335	5.0

Table 24 shows the frequency of switches in code-switching messages of all upper-middle class women, men, and all men and women. The frequency of switches of women is 5.1, 4.7 for men, and 5.0 words per switch for all men and women.

Table 25. Frequency of switches in code-switching messages by gender and social class by upper-middle class men and women (21 subjects)

	Words	Switches	Switches by words
Women	1544	416	3.7
Men	579	124	4.7
Men and women	2123	540	3.9

Table 25 shows the frequency of switches in code-switching messages of all upper-middle class women, men, and all men and women. The frequency of switches of women is 3.7, 4.7 for men, and 3.9 words per switch for all men and women.

4.1.4.7. Language of messages that have no code-switching

Table 26. Language of messages that have no code-switching by upper-lower class women (6 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	40	13	19	0	4	76
Percentage	53	17	25	0	5	100

Table 26 shows the language of upper-lower class women messages that have no code-switching. The total number of messages written in Arabic, Romanized script and Arabic script, is 53 messages and they constitute 70% of all upper-lower class women's messages without code-switching. The majority of Arabic messages are written in Romanized script (53%) while those written in Arabic script are 17% of all messages. As for English messages, they constitute 25% of all messages without code-switching. There are no French messages and the percentage is 5% for messages written in German.

Table 27. Language of messages that have no code-switching by lower-middle class women (17 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	219	7	17	6	8	257
Percentage	85	3	7	2	3	100

Table 27 shows the language of lower-middle class women messages that have no code-switching. The total number of messages written in Arabic, Romanized script and Arabic script, is 226 messages and they constitute 88% of all middle class women's messages without code-switching. The majority of Arabic messages are written in Romanized script (85%) while those written in Arabic script do not exceed 3% of all messages. As for English messages, they constitute only 7% of all messages without code-switching. The percentage of French messages is 2% and it is 3% for messages written in Armenian.

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Table 28. Language of messages that have no code-switching by upper-middle class women (11 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	73	0	79	3	0	155
Percentage	47	0	51	2	0	100

Table 28 shows the language of upper-middle class women messages that have no code-switching. The total number of messages written in Arabic is 73 messages, and they constitute 47% of all messages. There are no Arabic script messages, and all of these messages are written in Romanized Arabic. As for English messages, they constitute 51% of all messages without code-switching, and it is 2% for French messages.

Table 29. Language of messages that have no code-switching by upper-lower class men (2 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	27	9	8	0	0	44
Percentage	61	21	18	0	0	100

Table 29 shows the language of upper-lower class men messages that have no code-switching. The total number of messages written in Arabic, Romanized script and Arabic script, is 36 messages and they constitute 82% of all lower class men's messages without code-switching. The majority of Arabic messages are written in Romanized script (61%) while those written in Arabic script are 21% of all messages. As for English messages, they constitute 18% of all messages without code-switching. There are no messages written in French or other languages.

Table 30. Language of messages that have no code-switching by lower-middle class men (12 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	96	11	55	1	0	163
Percentage	59	7	34	-	0	100

Table 30 shows the language of lower-middle class men messages that have no code-switching. The total number of messages written in Arabic, Romanized script and Arabic script,

is 107 messages and they constitute 66% of all middle class men’s messages without code-switching. The majority of Arabic messages are written in Romanized script (59%) while those written in Arabic script do not exceed 7% of all messages. As for English messages, they constitute 34% of all messages without code-switching. There are no messages in French or other languages.

Table 31. Language of messages that have no code-switching by upper-middle class men (10 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	128	13	58	10	0	209
Percentage	61	6	28	5	0	100

Table 31 shows the language of upper-middle class men messages that have no code-switching. The total number of messages written in Arabic, Romanized script and Arabic script, is 141 messages and they constitute 67% of all upper class men’s messages without code-switching. The majority of Arabic messages are written in Romanized script (61%) while those written in Arabic script do not exceed 6% of all messages. As for English messages, they constitute 28% of all messages without code-switching, and the percentage is 5% for French messages.

4.1.5. “Are there gender differences in SMS code-switching between Christians and Muslims?”

To find out if there are differences in the code-switching of men and women of different religions, a set of correlations was tested. The first section of these correlations deals with code-switching in mixed religions, while the second section deals with code-switching within the same religion.

Table 32. Percentage of code-switching messages in total messages, by gender and by religion

	Women	Men	Men and women
Christians	55	24	43
Muslims	51	41	47

Table 32 shows the percentage of code-switching messages in messages of Christian and Muslim women, men and men, and women together. As for Christians, there are 9 women and 6

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men. The percentage of code-switching is 55% for women, 24% for men, and 43% for both. As for Muslims, there are 25 women and 18 men. The percentage of women's code-switching is 51% while it is 41% for men, and it is 47% for both.

Table 33. Percentage of code-switching by Christian men and Christian women

	Code-switching messages	Percent
Women (9)	113/204	55
Men (6)	31/127	24

Table 33 shows code-switching of Christian men and women. The percentage of code-switching is 55% for women and 24% for men.

Table 34. Percentage of code-switching by Muslim men and Muslim women

	Code-switching messages	Percent
Women (25)	413/809	51
Men (18)	220/540	41

Table 34 shows code-switching of Muslim men and women. The percentage of code-switching is 51% for women and 41% for men.

The following correlations show Christian and Muslim men and women code-switching in mixed religions and within the same religion.

4.1.5.1. Code-switching in mixed religions

4.1.5.1.1. All Christian men and women versus all Muslim men and women. I compared the degree of Christian men and women code-switching ($M= 43.40$, $SD= 43.40$) and Muslim men and women code-switching ($M= 50.16$, $SD= 25.20$), but I found no significant difference ($p= 0.372$).

4.1.5.1.2. All Christian men versus all Muslim men. I compared the degree of Christian men code-switching ($M= 30.17$, $SD= 21.94$) and Muslim men code-switching ($M= 44.17$, $SD= 29.49$), but I found no significant difference ($p= 0.300$).

4.1.5.1.3. *All Christian women versus all Muslim women.* I compared the degree of Christian women code-switching ($M= 52.22$, $SD= 23.29$) and Muslim women code-switching ($M= 54.48$, $SD= 21.96$), but I found no significant difference ($p= 0.791$).

4.1.5.2. *Code-switching within the same religion*

4.1.5.2.1. *All Christian men versus all Christian women.* I compared the degree of Christian women code-switching ($M= 52.22$, $SD= 23.29$) and Christian men code-switching ($M= 30.17$, $SD= 21.94$), but I found no significant difference ($p= 0.089$).

4.1.5.2.2. *All Muslim men versus all Muslim women.* I compared the degree of Muslim women code-switching ($M= 54.48$, $SD= 21.96$) and Muslim men code-switching ($M= 44.17$, $SD= 29.49$), but I found no significant difference ($p= 0.189$).

4.1.5.3. *Percentage of Arabic, English, French and other languages in code-switching messages*

Table 35. Presence of Arabic, English, French and other languages in code-switching messages by Christian women (9 subjects)

	Arabic	English	French	Other	Total
Words	608	633	71	132	1444
Percentage	42	44	5	9	100

Table 35 shows the number of Arabic, English, French and other languages words in the messages of all Christian women with their percentages. There are 608 Arabic words (42%), 633 English words (44%), 71 French words (5%) and 132 Armenian (9%).

Table 36. Presence of Arabic, English, French and other languages in code-switching messages by Christian men (6 subjects)

	Arabic	English	French	Other	Total
Words	140	81	8	0	229
Percentage	61	35	4	0	100

Table 36 shows the number of Arabic, English, French and other languages words in the messages of all Christian men with their percentages. There are 140 Arabic words (61%), 81 English words (35%) and 8 French words (4%).

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Table 37. Presence of Arabic, English, French and other languages in code-switching messages by all Christian men and women (15 subjects)

	Arabic	English	French	Other	Total
Words	748	714	79	132	1673
Percentage	45	43	5	7	100

Table 37 shows the number of Arabic, English, French and other languages words in the messages of all Christian men and women with their percentages. There are 748 Arabic words (45%), 714 English words (43%), 79 French words (5%) and 132 Armenian words (7%).

Table 38. Presence of Arabic, English, French and other languages in code-switching messages by Muslim women (25 subjects)

	Arabic	English	French	Other	Total
Words	3413	1457	60	0	4930
Percentage	69	30	1	0	100

Table 38 shows the number of Arabic, English, French and other languages words in the messages of all Muslim women with their percentages. There are 3413 Arabic words (69%), 1457 English words (30%) and 60 French words (1%).

Table 39. Presence of Arabic, English, French and other languages in code-switching messages by Muslim men (18 subjects)

	Arabic	English	French	Other	Total
Words	1678	1062	15	0	2755
Percentage	61	39	-	0	100

Table 39 shows the number of Arabic, English, French and other languages words in the messages of all Muslim men with their percentages. There are 1678 Arabic words (61%), 1062 English words (39%) and 15 French words.

Table 40. Presence of Arabic, English, French and other languages in code-switching messages by all Muslim men and women (43 subjects)

	Arabic	English	French	Other	Total
Words	5091	2519	75	0	7685
Percentage	66	33	1	0	100

Table 40 shows the number of Arabic, English, French and other languages words in the messages of all Muslim men and women with their percentages. There are 5091 Arabic words (66%), 2519 English words (33%) and 75 French words (1%).

4.1.5.4. Frequency of switches in code-switching messages

Table 41. Frequency of switches in code-switching messages by gender and religion by Christian men and women (15 subjects)

	Words	Switches	Switches by words
Women	1444	392	3.7
Men	229	49	4.7
Men and women	1673	441	3.8

Table 41 shows the frequency of switches in code-switching messages of Christian women, men, and all men and women. The frequency of switches of women is 3.7, 4.7 for men, and 3.8 words per switch for all men and women.

Table 42. Frequency of switches in code-switching messages by gender and religion by Muslim men and women (43 subjects)

	Words	Switches	Switches by words
Women	4930	984	5.0
Men	2755	592	4.7
Men and women	7685	1575	4.9

Table 42 shows the frequency of switches in code-switching messages of Muslim women, men, and all men and women. The frequency of switches of women is 5.0, 4.7 for men, and 4.9 words per switch for all men and women.

4.1.5.5. Language of messages that have no code-switching

Table 43. Language of messages that have no code-switching by Christian women (9 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	23	0	56	4	8	91
Percentage	25	0	62	4	9	100

Table 43 shows the language of Christian women's messages that have no code-switching. The total number of messages written in Arabic is 23 messages and they constitute

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25% of all Christian women’s messages without code-switching. All of the Arabic messages are written in Romanized Arabic and there are no messages in Arabic script. As for English messages, they constitute 62% of all messages without code-switching. The percentage of French messages is 4% and it is 9% for messages written in Armenian.

Table 44. Language of messages that have no code-switching by Christian men (6 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	58	0	28	10	0	96
Percentage	61	0	29	10	0	100

Table 44 shows the language of Christian men’s messages that have no code-switching. The total number of messages written in Arabic is 58 messages and they constitute 61% of all Christian men’s messages without code-switching. All of the Arabic messages are written in Romanized Arabic and there are no messages in Arabic script. As for English messages, they constitute 29% of all messages without code-switching, and it is 10% for French messages.

Table 45. Language of messages that have no code-switching by Christian men and women (15 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	81	0	84	14	8	187
Percentage	43	0	45	8	4	100

Table 45 shows the language of Christian men’s and women’s messages that have no code-switching. The total number of messages written in Arabic is 81 messages and they constitute 43% of all Christian men and women’s messages without code-switching. All of the Arabic messages are written in Romanized Arabic and there are no messages in Arabic script. As for English messages, they constitute 45% of all messages without code-switching. The percentage of French messages is 8% and it is 4% for messages written in other languages.

Table 46. Language of messages that have no code-switching by Muslim women (25 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	309	21	59	5	4	398
Percentage	78	5	15	1	1	100

Table 46 shows the language of Muslim women’s messages that have no code-switching. The total number of messages written in Arabic, Romanized script and Arabic script, is 330 messages and they constitute 83% of all Muslim women’s messages without code-switching. The majority of Arabic messages are written in Romanized script (78%) while those written in Arabic script do not exceed 5% of all messages. As for English messages, they constitute 15% of all messages without code-switching. The percentage of French messages is 1% and it is also 1% for messages written in German.

Table 47. Language of messages that have no code-switching by Muslim men (18 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	193	33	93	1	0	320
Percentage	61	10	29	0	0	100

Table 47 shows the language of Muslim men’s messages that have no code-switching. The total number of messages written in Arabic, Romanized script and Arabic script, is 226 messages and they constitute 71% of all Muslim men’s messages without code-switching. The majority of Arabic messages are written in Romanized script (61%) while those written in Arabic script are 10% of all messages. As for English messages, they constitute 29% of all messages without code-switching.

Table 48. Language of messages that have no code-switching by Muslim men and women (43 subjects)

	Arabic		English	French	Other	Total
	Romanized	Arabic script				
Messages	502	54	152	6	4	718
Percentage	70	7	21	1	1	100

Table 48 shows the language of Muslim men’s and women’s messages that have no code-switching. The total number of messages written in Arabic, Romanized script and Arabic script, is 556 messages and they constitute 77% of all Muslim men and women’s messages without code-switching. The majority of Arabic messages are written in Romanized script (70%) while those written in Arabic script do not exceed 7% of all messages. As for English messages, they constitute 21% of all messages without code-switching. The percentage of French messages is 1% and it is also 1% for messages written in German.

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4.1.6. Salient findings

Other than the common widely-used abbreviations that have become familiar to and inseparable of most computer-mediated communication aspects, the SMS messages of those students embrace some interesting or unusual ways of using language(s). Those students have developed their own typologies of writing messages by which they have exploited different languages to translate their thoughts and make themselves understood. They have become experts in using two or more languages by which they invent words or certain usage of words or even a kind of mixture between languages, mainly Arabic and English. The followings are some specimens of those areas of language mixing in those messages; all of these examples are extracted from those students' messages.

4.1.6.1. Prepositions

Instead of using English prepositions such as on, at, in, etc., those students use Arabic prepositions within English sentences or with English words. For example, instead of saying 'add me on Facebook', they say "add me 3l Facebook". This '3' represents the letter 'ع' in Arabic and '3l' is an equivalent of the Arabic preposition 'على' which means 'on'. In general, there is no consistency in writing these prepositions or any other Arabic words that are written in Romanized Arabic. For instance the preposition 'على', is written '3l' by one student or '3al' by another one. However; the usages of number '3' to represent the letter 'ع' or any other numbers to represent other Arabic letters, such as '7' for 'ح' or '5' for 'خ', is almost fixed in those students' dictionary. Some examples of these messages are: "merci 3al call", which means 'thanks for calling'; here also, we can notice that three languages, French, Arabic and English, are used together, and "bel exam", which is parallel to 'in the exam' as 'bel' is a Lebanese word that represents the preposition 'في' or 'in' in English. Other examples are "introduction lal report", which means the introduction of the report, "bl Grand Café", which means 'at the Grand Café' and "la safna" which means 'for our class',

4.1.6.2. Articles

I have also found an excessive usage of Arabic articles with English words in those students' messages. For example, instead of saying 'the new job', 'the presentation' or 'the flash',

abbreviation of flash memory, they write “1 new job”, “1 presentation” or “1 flash”. This ‘1’ is an abbreviation of the so-called Arabic article ‘أل التعريف’ or the definite article. Similar to the usage of ‘3l’ or ‘3al’ to represent the letter ‘ع’, the definite article could be written differently in those students’ messages. Some more examples of the usage of this article are: “el slides”, “el research” “el volume” instead of ‘the slides’, ‘the research’ and ‘the volume’ and ‘el msg’ instead of the message.

4.1.6.3. Interjections or fillers

I have also noticed that certain expressions, whether in English or Arabic, are used as fillers or interjections in their SMS messages. Some of the Arabic examples are: “yalla” that means ‘come on’, “wa” or “w”, which is equal to ‘and’, “fa” that means ‘so’ and “7bb” an abbreviation of “habibi” or “habibti” that means my dear. The latter expression is mainly used at the beginning of the message unlike the previous ones that could be used anywhere. As for the English examples, there are: “mwah” that is used to express the sound of a kiss, and which has been used excessively nowadays especially among young people, “so”, “hey”, “anw” or “anyway”, “btw” the abbreviation of ‘by the way’, “coz” or “kz”, which is the abbreviation of because, “tc” or ‘take care’, and “ok” that is written in many different ways by those students: “okay”, “okk” , okii, or oki.

4.1.6.4. Witty language blending

Some of the students in this study have really developed amazing ways by which Arabic and English are mixed skillfully to constitute funny yet meaningful words. One of the most interesting examples I have come across while surveying those SMS messages is the case of IUL W5. Some of the examples in her message are: “bonjouriiikk” that is a blend of the French word ‘bonjour’ or ‘good morning’ with the Arabic pronoun of address ‘كاف’ and the triple ‘iii’ is but to express her excitement in a funny way. There was also “missikk”, which is one of the expressions that are widely used among young Lebanese people, and means ‘I miss you’. In another message, there was “min friendesta”; ‘min’ is an Arabic word that means ‘who’ and ‘friendesta’ is a mixture of friend and the Arabic possessive feminization pronoun ‘ها’ to mean ‘who is her friend?’. There was also “phonee”, which a mixture of phone and the Arabic possessive pronoun ‘ي’, and it means ‘my phone’. There are also more examples from other

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participants such as “examna” or “our exam”, “lovvik” or “love you”, “halmag”, which is a mixture of ‘hal’ an Arabic word that means this and msg, an abbreviation of text message, and it simply means ‘this message’. One of the really funniest examples was written by NDU W1, who instead of telling her mother ‘I love you’, she wrote “I tabouleh you”, and in another message she wrote “love u my tabouleh”. Taboule is a famous traditional Lebanese salad, and it happened that her mother was a big lover of it. All of these examples have been found in women’s messages, and I have not come across such instances of language blending in men’s messages.

4.1.6.5. Peculiar different language(s) usage by the same person

In an intrusive phenomenon, I have found out that some participants use different languages, mostly Arabic or English, to say the same thing in different messages or even in the same message sometimes. At times, these messages are sent to the same type of audience, such as messages sent to different men for example or to a diverse audience some other times, either to a man or a woman. The followings are some of these examples: NDU W1 switched to Arabic and used “3al saff” which means ‘to the class’ in one of the messages sent to a male colleague and used “class” in two other messages, one sent to a female colleague and the other one to her mother. NDU M1, used “bro”, brother, and “zalame”, a Lebanese word that means ‘man’ in the same message. NDU M2 also used “man” and “5aye”, a Lebanese word that means my brother in the same message. IUL M4 and NDU M5 use “bro” and some other times “khaye”, which is the same as “5aye” as ‘kh’ is used to represent the letter for ‘خ’ instead of ‘5’ sometimes, when they sent messages to their male friends. What was more interesting the birthday wishes messages sent by NDU M5. One of these messages was written in English and sent to a female colleague, and the other one was written in Arabic and sent to a male colleague. I have also found that he, as well as some other multilingual men, used a mixture of Arabic, English and French in the messages sent to women and sometimes to some family members whereas Lebanese Arabic was mostly used in the messages sent to men. I have also noticed that among those men and women, who are fluent in French, French was only used by women and if it was used by men, it was only used in messages sent to women or family members but never in the messages sent to men. Thus in those men’s messages, code-switching mostly took place in the messages sent to women and rarely in the messages sent to men, except for some words such as ‘bro’, ‘man’, ‘mc’, an abbreviation of ‘missed call’, ‘ok’, ‘sorry’ and other English words related

to their studies. The word “el estez”, which means ‘the professor’ or ‘dr.’, was found in one of the messages sent by a woman to a male colleague and in another one sent by a man to a male colleague similarly to the word “saff”, which means ‘class’. LIU W6 usually used “nshallah”, the vernacular version of “nShaAllah”, which means “if God wills”, in her messages but she only used the latter version, or the Standard Arabic version, with a particular male friend. She also used different greetings in her messages but she would only use “salam”, an abbreviation of ‘As-salāmu ‘alaykum’, which means “peace be upon you”, with that particular man. LIU W1 used ‘good morning’ in different languages in her messages: “saba7 l5er” in Arabic, “bonjour” in French and “good morning”. In general, students know very well with whom they use certain words such as ‘salam’, ‘hello’, ‘hi’, ‘bonjour’, “saba7 l5er”, ‘gm’ or good morning, ‘gd’, goodnight or even “nighty”, and many other words. Although emoticons are mostly used by women, LIU M1 used plenty of them in his messages to his girlfriend. He used them sometimes with his sister but never with any of his other family members or his male friends. In the same message, LIU M1, used “jem3a”, the Lebanese Arabic word of university, and “uni”, which is an abbreviation of ‘university’. LU W1 also uses “uni” with her female friend but “jem3a” with her mother. LIU W4, used “3alimlik”, which is a specific Lebanese term that means ‘to make a missed call’ in one message, and “mc”, which is an abbreviation of ‘missed call’, in another one. Another example is IUL W4, who used “exam” and “imtihan”, the Arabic version of ‘exam’, in two different messages to her sister.

4.1.6.6. Character identifiers

Other than their linguistic backgrounds, those messages can reveal many things about their senders such as their socioeconomic or sociocultural background or their religion. For example, it is obvious that NDU W7 is Christian because she talked about the practices related to ‘أحد الشعانين’ or ‘Palm Sunday’ in the messages sent to one of her friends. On the other hand, in one of the messages written by AUB W1, she asked her friend whether she would join them to “the Faraya Iftar”, ‘Iftar’ is the evening meal by which Muslims break their fast in Ramadan and Faraya is a Lebanese city where that Iftar would obviously take place in one of its restaurants. Moreover, LIU W6 used a variety of Islamic religious words in her messages such as “Fi aman Allah”, which means ‘Within God’s safety’, and “lhamduliAllah”, the Standard Arabic version of ‘hamdella’ that means ‘thank God’; both expressions are particularly used by Muslims.

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“Salam” as well is a widely-used Islamic greeting would be only found in Muslims’ messages whereas words such as “nshallah”, which means ‘in God’s will and “hamdella”, which means ‘thank God’ would be found in messages of both, Muslims and Christians. The messages can also point at the linguistic repertoire of the students or their families, and which is also associated with their social background. Some students would only code-switch when they use very simple or common words such as ‘ok’, ‘hi’, ‘sorry’ or ‘sry’, ‘hi’, ‘bye’, ‘please’ or ‘plz’, ‘bonjour’, ‘merci’, etc., and most of their messages were written in Arabic. However, there are others who code-switch excessively in their messages in addition to the messages written either in English or French. Moreover, things such as the places they visit or where they travel or where they dine, or even the things they buy can tell many things about them, and sometimes whether they are code-switching to show prestige or not. For example, those messages divulge the students who can afford travelling or going to a restaurant at a five-star hotel or buying a 100 euro perfume and those who cannot.

4.1.6.7. Humor

Upon analyzing the students’ SMS messages, I have noticed a factor that attracted my attention; the usage of Fusha or “Standard Arabic” to add a sense of humor to the conversation such as in the messages of IUL W5 and AUB W1. Another way of adding fun to their messages is by stressing certain words by adding letters to them either to show approval, love, excitement, enthusiasm or any other kind of feeling or effect, all blended with a sense of humor. The followings are some of these examples: “okiii” or “okkk”, “merciiii”, “mwahhh” or “mwaaah”, “yiii”, “woooow” or “Woohoo”, “plzzz”, “hiii”, “comment ca va?????? Tu as termine le devoir????”, “ktiiiiiiir” or ‘so much’ in Arabic, “ouiii”, “ahaaaaa...gddd”, “missiikk inti” or ‘I miss you’ in Arabic, “I crazily lovvvvveveveveve U”, “Ehhhhhhhhhhhhhh” or ‘yes’ in Lebanese Arabic, “FIFAAAAAAA”, “thank uuuu”, “love uuu”, “Merciiii khaltouuuuu”, ‘khalto’ is the maternal aunt, “helloooooooooooooooooozz”, “natriniikkkkkk” or ‘waiting for you’, “speedzzz plzz”, etc. This is in addition to the different unique ways of using the greeting ‘bonjour’ by Lebanese people: “Bonjouran”, “Bonjouriikk”, “Bonjourak”, etc. What is really remarkable is that only women produced such expressions, and that among all male participants in this study, there were only two whose messages contained such expressions. The first one was in love and sometimes he expressed his love in this way, and the other one used them with his

mother begging her to do things for him. However, none of these men were as creative or as innovative as women were.

4.2. Findings of the questionnaire

The questionnaire is divided into three sections: questions on using English in SMS messages, questions on code-switching, and questions on language use and acquisition. Men and women gave more or less the same answers to some questions; however, the answers were totally different for other questions.

4.2.1. Questions on using English in SMS messages

This first section is made up of the following six questions anticipates students' opinions on using English in their SMS messages. Subjects had to choose the answer that best expresses what they think of the statements.

4.2.1.1. "Using English in mobile text messages enriches the Arabic language"

Table 49. Agreement with "Using English in mobile text messages enriches Arabic language"

		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
Women	34 (100%)	8 (23%)	15 (44%)	6 (18%)	4 (12%)	1 (3%)
Men	24 (100%)	3 (13%)	9 (36%)	6 (25%)	3 (13%)	3 (13%)
All	58 (100%)	11 (19%)	24 (41%)	12 (21%)	7 (12%)	4 (7%)

Table 49 shows the subjects' answers to the first question, "Using English in mobile text messages enriches the Arabic language". We see that 67% of women and 49% of men do *not* agree with this statement, while 18% of women and 25% of men are uncertain. On the other hand, 15% of women and 26% of men agree with this. In total, most of the 58 subjects (60%) do *not* agree that using English in mobile text messages enriches the Arabic language, 21% of them are uncertain, and 19% do agree. These students are highly dependent on many English words for which they do not know the Arabic equivalents, especially those related to their academic life. However, they still do not believe that using English in their text messages could enrich their language.

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4.2.1.2. “Using English in mobile text messages indicates prestige”

Table 50. Agreement with “Using English in mobile text messages indicates prestige”

		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
Women	34 (100%)	2 (6%)	17 (50%)	6 (18%)	8 (23%)	1 (3%)
Men	24 (100%)	1 (4%)	9 (37.5%)	4 (17%)	9 (37.5%)	1 (4%)
All	58 (100%)	3 (5%)	26 (45%)	10 (17%)	17 (30%)	2 (3%)

Table 50 shows the subjects’ answers to the second question, “Using English in mobile text messages indicates prestige”. We see that 56% of women and almost 42% of men do *not* agree with this statement while 18% of women and 17% of men are uncertain. On the other hand, 26% of women and almost 42% of men agree with this. In total, 50% of the 58 subjects do *not* agree that using English in mobile text messages indicates prestige, 17% of them are uncertain, and 33% do agree. These percentages might not reflect the exact fact that prestige is somehow one of the factors behind code-switching phenomenon, at least for women. This could be attributed to the fact that, in general, people do not admit they are prestigious or that they are doing something out of prestige.

4.2.1.3. “Using English in mobile text messages indicates education”

Table 51. Agreement with “Using English in mobile text messages indicate education”

		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
Women	34 (100%)	0 (0%)	7 (21%)	2 (6%)	23 (67%)	2 (6%)
Men	24 (100%)	0 (0%)	4 (17%)	4 (17%)	10 (41%)	6 (25%)
All	58 (100%)	0 (0%)	11 (19%)	6 (10%)	33 (57%)	8 (14%)

Table 51 shows the subjects’ answers to the third question, “Using English in mobile text messages indicates education”. Only 21% of women and 17% of men do *not* agree with this statement while 6% of women and 17% of men are uncertain. On the other hand, most of the women (73%) and most of the men (66%) agree with this. In total, most of the 58 subjects (71%) do agree that using English in mobile text messages indicates education, only 10% of them are uncertain, and 19% do *not* agree. In some way, I think the answers of this question do contradict those of the previous one. Whereas most of the students in the previous question say that SMS code-switching is not an indicator of prestige, most of them here state it is an indicator of

education. Most probably this is because both men and women refrain from admitting they are prestigious in a way or another.

4.2.1.4. “English should be used in the whole of a mobile text message”

Table 52. Agreement with “English should be used in the whole of a mobile text message”

		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
Women	34 (100%)	2 (6%)	15 (44%)	8 (23.5%)	8 (23.5%)	1 (3%)
Men	24 (100%)	2 (8%)	12 (50%)	4 (17%)	4 (17%)	2 (8%)
All	58 (100%)	4 (7%)	27 (46%)	12 (21%)	12 (21%)	3 (5%)

Table 52 shows the subjects’ answers to the fourth question “English should be used in the whole of a mobile text message”. We see that 50% of women and 58% of men do *not* agree with this statement while 23.5% of women and 17% of men are uncertain. On the other hand, almost 26% of the women and 25% of the men agree with this. In total, most of the 58 subjects (53%) do *not* agree that English should be used in the whole mobile text messages, 21% of them are uncertain, and 26% do agree. For these students, Romanized Arabic is just a means to communicate their Lebanese Arabic in their SMS messages, and it has nothing to do with English language even though they are using Latin script. Giving away Arabic script does not seem to have a real effect on those young people, at least from their perspective. However, abandoning their native language does, and that is why they do not agree to replace it by English.

4.2.1.5. “Using English in mobile text messages can be seen as a good means to access Western culture and technology”

Table 53. Agreement with “Using English in mobile text messages can be seen as a good means to access Western culture and technology”

		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
Women	34 (100%)	1 (3%)	6 (18%)	10 (29%)	15 (44%)	2 (6%)
Men	24 (100%)	1 (4%)	7 (29%)	2 (8%)	8 (34%)	6 (25%)
All	58 (100%)	2 (3%)	13 (22%)	12 (21%)	23 (40%)	8 (14%)

Table 53 shows the subjects’ answers to the fifth question “Using English in mobile text messages can be seen as a good means to access Western culture and technology”. We see that

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50% of women and 58% of men do agree with this statement while 29% of women and 8% of men are uncertain. On the other hand, 21% of women and 31% of men do *not* agree with this. In total, most of the 58 subjects (54%) do agree that using English in mobile text messages can be seen as a good means to access Western culture and technology, 21% of them are uncertain, and 25% do *not* agree. These answers reflect the reality that nowadays, English has become an access to know the world better and to keep up with technology. For those students, it could further be an effective means by which they can conquer the difficulties that might prevent them from getting the best education or job opportunities.

4.2.1.6. “Using English in mobile phones indicates cultural colonization”

Table 54. Agreement with “Using English in mobile phones indicates cultural colonization”

		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
Women	34 (100%)	2 (6%)	4 (12%)	4 (12%)	21 (61%)	3 (9%)
Men	24 (100%)	0 (0%)	3 (13%)	5 (21%)	14 (58%)	2 (8%)
All	58 (100%)	2 (3%)	7 (12%)	9 (16%)	35 (60%)	5 (9%)

Table 54 shows the subjects’ answers to the sixth question “Using English in mobile text messages indicates cultural colonization”. We see that 70% of women and 66% of men do agree with this statement while 12% of women and 21% of men are uncertain. On the other hand, only 18% of women and 13% of men do *not* agree with this. In total, most of the 58 subjects (69%) do agree that using English in mobile text messages indicates cultural colonization, 16% of them are uncertain, and only 15% do *not* agree. Despite the fact most of them believe that English could be seen as a good means to access Western culture and technology, yet most of them agree that using English indicates cultural colonization. This could be attributed to the fact that they are totally aware of the effects of English on different aspects of their life, and that they are capable of defining its tight grip on the whole world around them.

4.2.2. Questions on code-switching

The second section of the questionnaire is made up of the following four questions that were basically designed to shed the light on the subjects’ code-switching behavior. In the first

question, subjects had to choose the answer that best expresses what they think. In the other three questions, they had to pick the answer that best indicates how often they code-switch.

4.2.2.1. *“The extensive use of English code-switches can pose a linguistic threat to Lebanese Arabic”*

Table 55. Agreement with “The extensive use of English code-switches can pose a linguistic threat to Lebanese Arabic”

		Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
Women	34 (100%)	2 (6%)	8 (23%)	4 (12%)	15 (44%)	5 (15%)
Men	24 (100%)	0 (0%)	3 (12.5%)	4 (17%)	14 (58%)	3 (12.5%)
All	58 (100%)	2 (3%)	11 (19%)	8 (14%)	29 (50%)	8 (14%)

Table 55 shows the subjects’ answers to the seventh question in the questionnaire “The extensive use of English code-switches can pose a linguistic threat to Lebanese Arabic”. We see that 59% of women and 71% of men do agree with this statement while 12% of women and 17% of men are uncertain. On the other hand, 29% of women and almost only 13% of men do *not* agree with this. In total, most of the 58 subjects (64%) do agree that using English in mobile text messages can pose a linguistic threat to Lebanese Arabic, 14% of them are uncertain, and 22% do *not* agree. These answers correspond with the answers to the previous question that reveal their opinion of English as an aspect of cultural colonization meanwhile they believe that using English in their text messages indicates education and that it is a good means to access Western culture and technology. Although some of them use English excessively in their daily life, those students do not deny that their Arabic language is fading away, at least among young people, in front of the pressure of the English language as a result of globalization.

4.2.2.2. *“Frequency of code-switching when talking to others”*

Table 56. “Self-reported frequency of code-switching when talking to others”

		Never	Rarely	Sometimes	Very often	Always
Women	34 (100%)	1 (3%)	4 (12%)	15 (44%)	7 (20.5%)	7 (20.5%)
Men	24 (100%)	0 (0%)	7 (29%)	7 (29%)	6 (25%)	4 (17%)
All	58 (100%)	1 (2%)	11 (19%)	22 (38%)	13 (22%)	11 (19%)

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Table 56 shows the subjects' answers to the eighth question, which is "Frequency of code-switching when they talk to others". We see that 44% of women and 29% of men said they sometimes code-switch while talking to others while 41% of women and 23% of men do this either very often or always. On the other hand, 3% of women and 0% of men said they never code-switch, and 12 % of women and 29% of men said they rarely code-switch when talking to others. In total, only 2% of all 58 subjects said they never do this, 19% said they rarely do it, 38% said they do it sometimes, 22% said they do it very often and 19% said they always resort to code-switching when talking to others.

These percentages show that women tend to have a higher percentage of self-reported frequency of using code-switching while talking to others, and this corresponds with the general view that women code-switch more than men. Moreover, studies have also detected that men refrain from stating that they code-switch even if they really do unlike women who pretend that they are capable of using different languages even when their second language competence is low. This could be also related to question two above on prestige; the answers show that men have a higher tendency than women to think that using foreign languages is a kind of prestige, and this also corresponds with the answers to question ten in the interview where the percentage of men who stated that using English in SMS messages is out of prestige is higher than that of women.

4.2.2.3. "Frequency of code-switching in SMS messages"

Table 57. "Self-reported frequency of code-switching in SMS messages"

		Never	Rarely	Sometimes	Very often	Always
Women	34 (100%)	0 (0%)	1 (3%)	8 (24%)	12 (35%)	13 (38%)
Men	24 (100%)	1 (4%)	1 (4%)	6 (25%)	10 (42%)	6 (25%)
All	58 (100%)	1 (2%)	2 (3%)	14 (24%)	22 (38%)	19 (33%)

Table 57 shows the subjects' answers to the ninth question, "Frequency of code-switching in SMS messages". Most of the women (73%) and most of the men (67%) always or very often code-switch in their SMS messages while 24% of women and 25% of men said they sometimes do this. On the other hand, only 3% of women and 8% of men said they never or rarely do this. In total, only 2% of all 58 subjects said they never do this, another 3% said they rarely do it, 24% said they do it sometimes, 38% said they do it very often and 33% said they

always resort to code-switching when writing SMS messages. The answers to this question do agree with the findings of their SMS messages where women have been found to code-switch more than men. What is surprising is when we compare the percentages of the answers of the previous question and this one we see that both men and women stated less frequency of using code-switching when talking to others than when they write their SMS messages.

4.2.2.4. “Frequency of code-switching with men”

Table 58. “Frequency of code-switching with men”

		Never	Rarely	Sometimes	Very often	Always
Women	34 (100%)	4 (12%)	2 (6%)	12 (35%)	10 (29%)	6 (18%)
Men	24 (100%)	3 (13%)	3 (13%)	6 (25%)	9 (36%)	3 (13%)
All	58 (100%)	7 (12%)	5 (9%)	18 (31%)	19 (33%)	9 (15%)

4.2.2.5. “Frequency of code-switching with women”

Table 59. “Frequency of code-switching with women”

		Never	Rarely	Sometimes	Very often	Always
Women	34 (100%)	1 (3%)	2 (6%)	9 (26%)	13 (39%)	9 (26%)
Men	24 (100%)	2 (8%)	2 (8%)	5 (21%)	11 (46%)	4 (17%)
All	58 (100%)	3 (5%)	4 (7%)	14 (24%)	24 (41%)	13 (23%)

Tables 58 and 59 show the subjects’ answers to the tenth question, “Frequency of code-switching in their SMS messages when they write messages to men or women”.

Table 58 shows the subjects’ answers to the first part of the question, “How often do you code-switch in your messages to men?” We see that 12% of women and 13% of men said they never code-switch, another 6% of women and 13% of men said they rarely do this, 35% of women and 25% of men said they sometimes do, 29% of women and 37% of men said they do this very often and 18% of women and 13% of men said they always code-switch when they write SMS messages to men. In total, 12% of all 58 subjects said they never do this, another 9% said they rarely do it, 31% said they do it sometimes, 33% said they do it very often and 15% said they always resort to code-switching when writing SMS messages to men.

Table 59 shows the subjects’ answers to the first part of the question, “How often do you code-switch in your messages to women?” Only 3% of women and 8% of men said they never code-switch, another 6% of women and 8% of men said they rarely do this, 26% of women and

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21% of men said they sometimes do, 39% of women and 46% of men said they do this very often and 26% of women and 17% of men said they always code-switch when they write SMS messages to women. In total, only 5% of all 58 subjects said they never do this, another 7% said they rarely do it, 24% said they do it sometimes, 41% said they do it very often and 23% said they always resort to code-switching when writing SMS messages to women.

Women stated they code-switch more with women (91%), the total percentages of sometimes, very often and always, than they do with men (82%) in their SMS messages, and this agrees with the findings of code-switching in SMS messages where women have been found to code-switch with women (75%) more than they do with men (25%). As well, the results of men's code-switching in this question correspond with the findings of code-switching in their SMS messages. Men stated that they code-switch with women (84%) more than they do with men (75%), and this is, more or less, similar to their code-switching in SMS messages where they were found to code-switch more with women (53%) than they do with men (47%). On the whole, these results agree with the general findings of this study that there are intra- as well as inter-gender differences in SMS code-switching of those young people.

4.2.3. Questions on language use and acquisition

The third section of the questionnaire is divided into the following five questions.

4.2.3.1. "Competence in language(s) other than Arabic and English"

The first question in this part is about languages that students know other than Arabic and English.

Table 60. "Self-reported competence in language(s) other than Arabic and English"

	French	Spanish	Other
Women 34	27 (79%)	8 (23%)	6 (18%)
Men 24	15 (63%)	2 (8%)	3 (13%)
All 58	42 (72%)	10 (17%)	9 (15%)

Table 60 shows the subjects' answers to question 11, "Other than Arabic and English, what languages do you know?" In this table, the numbers do not add up to 100 because there are some subjects who know three or four languages. Their self-reported level of proficiency in these languages varies from fluent to fair. We see that 27 women (79%) and 15 men (63%) know

French, eight women (23%) and two men (8%) know Spanish. As for other languages, two women know Italian, one woman knows Armenian, another two women know German, and one knows Turkish. As for men, there are three (13%) who know other languages; Swedish, German and Persian. In total, there are 42 subjects (72%) who know French, ten subjects (17%) who know Spanish, and nine subjects (15%) who know other languages (German, Armenian, Italian, Swedish, Persian and Turkish). This question is parallel to the fifth question in the interview “What languages do you know? How well?”. In both questions, the findings show that women have a higher command of learning foreign languages.

4.2.3.2. “What language did you first learn before school age?”

The second question in this section is about the language or languages subjects learnt before school age. Subjects had to choose between Arabic, Arabic and French, Arabic and English, English, French or other language(s).

Table 61. “Self-reported languages learnt before school age”

	Arabic	Arabic & French	Arabic & English	French	English	Other
Women 34 (100%)	19 (56%)	7 (21%)	6 (17%)	1 (3%)	0 (0%)	1 (3%)
Men 24 (100%)	14 (58%)	4 (16%)	3 (13%)	3 (13%)	0 (0%)	0 (0%)
All 58 (100%)	33 (57%)	11 (19%)	9 (15%)	4 (7%)	0 (0%)	1 (2%)

Table 61 shows the subjects’ answers to this question. There are 19 women (56%) and 14 men (58%) who learnt only Arabic, seven women (21%) and four men (16%) who learnt Arabic and French, six women (17%) and three men (13%) who learnt Arabic and English, one woman (3%) and three men (13%) who learnt French only, and one woman (3%) who learnt Armenian only. In total, most of the 58 subjects learnt only Arabic before school age, eleven subjects (19%) learnt Arabic and French, nine subjects (15%) learnt Arabic and English, and one (2%) learnt Armenian only before school age.

The purpose of this question is to determine students’ native language as well as the factors that have shaped their linguistic repertoire. Thus this question, similarly to the previous one, correlates in a way or another to the fifth question in the interview that states that almost all men and women are natives in Arabic. It also has to do with the sixth question in the interview “Have you lived abroad? In which country and how long?” as both of these questions were set to reveal the factors that might have affected those students’ linguistic repertoire.

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4.2.3.3. *“In what language(s) were you mostly taught in your previous schooling?”*

The third question in this section is about the language or languages subjects were mostly taught by in their previous schooling. Subjects had to choose between Arabic, Arabic and French, Arabic and English, English, French or other language(s).

Table 62. “Languages subjects report being mostly taught to them in previous schooling”

	Arabic	Arabic & French	Arabic & English	French	English	Other
Women 34 (100%)	2 (6%)	3 (9%)	11 (32%)	6 (18%)	11 (32%)	1 (3%)
Men 24 (100%)	2 (8%)	0 (0%)	6 (25%)	10 (42%)	6 (25%)	0 (0%)
All 58 (100%)	4 (7%)	3 (5%)	17 (29%)	16 (28%)	17 (29%)	1 (2%)

Table 62 shows subjects’ answers to this question. Only two women (6%) and two men (8%) were mostly taught in Arabic, three women (9%) were mostly taught in Arabic and French, eleven women (32%) and six men (25%) were mostly taught in Arabic and English, six woman (18%) and ten men (42%) were mostly taught in French and eleven woman (32%) and six men (25%) were mostly taught in English and there is one woman who was mostly taught in Armenian, Arabic and English. In total, most of the 58 subjects (34 subjects or 58%) were mostly taught in Arabic and English or in English, 16 subjects (28%) were mostly taught in French only, four subjects (7%) were mostly taught in Arabic only, three subjects (5%) were mostly taught in Arabic and French and one subject (2%) was mostly taught in three languages, Armenian, Arabic and English. This question similarly corresponds to another question in the interview, which is the seventh question that was designed to elicit the percentage of students’ study material at school. Both questions show that English is the first foreign language of study for most of the students.

4.2.3.4. *“What language(s) do you normally use to communicate with?”*

In this question, subjects were asked to choose the language or languages they usually use to communicate with their fathers, mothers, siblings, grandparents, uncles, aunts, cousins, nephews, nieces, colleagues, other friends, bosses and professors. For the categories nephew, niece and boss there are fewer than 34 women or 24 men because not all the subjects have nephews, nieces or bosses. They had to choose between Arabic, Arabic and English, English, Arabic and French, Arabic, English and French, or other languages. “Arabic” here means Lebanese dialect or Lebanese Arabic.

Table 63. “Languages reportedly used normally by women to communicate with social contacts”

	Arabic	Arabic/English	English	Arabic/French	Ar/En/Fr	Other	All
Father	20 (59%)	9 (26%)	1 (3%)	0 (0%)	2 (6%)	2 (6%)	34 (100%)
Mother	16 (47%)	8 (23%)	1 (3%)	4 (12%)	3 (9%)	2 (6%)	34 (100%)
Siblings	8 (23%)	19 (56%)	0 (0%)	0 (0%)	5 (15%)	2 (6%)	34 (100%)
Grandparents	28 (82%)	4 (12%)	0 (0%)	1 (3%)	0 (0%)	1 (3%)	34 (100%)
Uncle	21 (61%)	7 (21%)	2 (6%)	1 (3%)	1 (3%)	2 (6%)	34 (100%)
Aunt	22 (64%)	7 (21%)	1 (3%)	2 (6%)	0 (0%)	2 (6%)	34 (100%)
Cousin	12 (35%)	15 (44%)	1 (3%)	1 (3%)	2 (6%)	3 (9%)	34 (100%)
Nephew	7 (47%)	4 (27%)	0 (0%)	2 (6%)	2 (6%)	0 (0%)	15 (100%)
Niece	8 (53%)	5 (33%)	0 (0%)	1 (7%)	1 (7%)	0 (0%)	15 (100%)
Colleague	8 (23%)	19 (56%)	0 (0%)	0 (0%)	7 (21%)	0 (0%)	34 (100%)
Other friends	11(32%)	17 (50%)	1 (3%)	0 (0%)	3 (9%)	2 (6%)	34 (100%)
Boss	6 (29%)	7 (33%)	7 (33%)	0 (0%)	1 (5%)	0 (0%)	21 (100%)
Professor	3 (9%)	10 (29%)	16 (47%)	1 (3%)	4 (12%)	0 (0%)	34 (100%)

Table 63 shows the language or languages used by women to communicate with their social contacts. It is obvious that most women use Arabic to communicate with parents and some other family members: grandparents (82%), aunts (64%), uncle (61%) father (59%), mothers (47%), nieces (53%) and nephews (47%). They use less Arabic with people of same age: cousins (35%), friends (32%) and colleagues and siblings (23%). As for people of a different age group, 29% reported using Arabic to communicate with their boss and only 9% said they use Arabic with their professors.

A mixture of Arabic and English is mostly used to communicate with people in the same age group and less with others: siblings and colleagues (56%), other friends (50%), cousins (44%), nieces and bosses (33%), professors (29%). The percentage using Arabic and English to communicate with parents, uncles, aunts or grandparents is between 26% and 12%.

As for communicating in English only, the percentage ranges between 0% when the women communicate with siblings, grandparents, colleagues, nephews and nieces and 6% when they communicate with uncles. On the other hand, 47% of women use English to communicate with professors and 33% of those who work use it with their bosses. As for Arabic and French, there are just few women who use the combination of these two languages to communicate with people around them. It is more or less the same for those who use Arabic, English and French together as means of communication.

There are another two or three women who use Armenian, German and French to communicate with some family members and friends.

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Table 64. “Languages reported used normally by men to communicate with social contacts”

	Arabic	Arabic/English	English	Arabic/French	Ar/En/Fr	Other	All
Father	17 (71%)	5 (21%)	0 (0%)	1 (4%)	1 (4%)	0 (0%)	24 (100%)
Mother	18 (75%)	3 (12.5%)	0 (0%)	3 (12.5%)	0 (0%)	0 (0%)	24 (100%)
Siblings	9 (37%)	11 (46%)	0 (0%)	1 (4%)	3 (13%)	0 (0%)	24 (100%)
Grandparents	23 (96%)	1 (4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	24 (100%)
Uncle	17 (71%)	5 (21%)	0 (0%)	1 (4%)	0 (0%)	1 (4%)	24 (100%)
Aunt	16 (67%)	5 (21%)	1 (4%)	1 (4%)	0 (0%)	1 (4%)	24 (100%)
Cousin	7 (29%)	13 (55%)	1 (4%)	0 (0%)	1 (4%)	2 (8%)	24 (100%)
Nephew	3 (49%)	1 (17%)	1 (17%)	1 (17%)	0 (0%)	0 (0%)	6 (100%)
Niece	4 (66%)	1 (17%)	0 (0%)	1 (17%)	0 (0%)	0 (0%)	6 (100%)
Colleague	4 (17%)	18 (75%)	0 (0%)	0 (0%)	2 (8%)	0 (0%)	24 (100%)
Other friends	6 (25%)	14 (58%)	1 (4%)	0 (0%)	3 (13%)	0 (0%)	24 (100%)
Boss	9 (60%)	4 (27%)	2 (13%)	0 (0%)	0 (0%)	0 (0%)	15 (100%)
Professor	1 (4%)	11 (46%)	12 (50%)	0 (0%)	0 (0%)	0 (0%)	24 (100%)

Table 64 shows the language or languages used by men to communicate with their social contacts. It is obvious that most men use Arabic to communicate with parents and some other family members: grandparents (96%), mothers (75%), fathers (71%) uncles (71%), aunts (67%), nieces (66%) and nephews (49%). They use less Arabic with people of same age: siblings (37%), cousins (29%), friends (25%) and colleagues (17%). As for people in a different age group, 60% reported using Arabic to communicate with their boss and only 4% said they use Arabic with their professors.

A mixture of Arabic and English is mostly used to communicate with people of the same age group and less with others: colleagues (75%), other friends (58%), cousins (54%), siblings (46%), professors (46%) and bosses (27%). The percentage of using Arabic and English to communicate with parents, uncles, aunts, nieces, nephews or grandparents is between 4% and 21%.

As for communicating in English only, the percentage ranges between 0% when they communicate with parents, siblings, grandparents, uncles, nieces and colleagues and 17% when they communicate with nephews (but not nieces). On the other hand, 50% of the men use English to communicate with professors and only 13% of those who work use it with their bosses.

As for Arabic and French, there are just few men who use a combination of these two languages to communicate with people around them. It is more or less the same for those who use Arabic, English and French together as means of communication.

As for other languages, there are two men (8%) who use French to communicate with some family members.

On the whole, both men and women tend to use different language(s) when they communicate with different audience; they use more Arabic with people of different age group and more English with professors and bosses. On the other hand, with people in the same age group, they tend to use a combination of Arabic and English more than they use Arabic or English separately. This corresponds with the general findings of this study where men and women have been found to behave differently in inter- as well as intra-generational SMS code-switching.

4.2.3.5. “What language(s) do you normally use to write SMS messages?”

In this question, subjects were asked to choose the language or languages they usually use to write SMS messages to their fathers, mothers, siblings, grandparents, uncles, aunts, cousins, nephews, nieces, colleagues, other friends, bosses and professors. In some of the categories, there are fewer than 34 women or 24 men because some of them do not write SMS messages to social contacts such as fathers, uncles, aunts, nephews, nieces, bosses or professors. They had to choose between Arabic, Arabic and English, English, Arabic and French, Arabic, English and French, or other languages. “Arabic” here refers to both Arabic script and Romanized Arabic. However, most of the Arabic used in the subjects’ messages is Romanized Arabic.

Table 65. “Languages reported as being normally used by women to write SMS messages to social contacts”

	Arabic	Arabic/English	English	Arabic/French	Ar/En/Fr	Other	All
Father	14 (45%)	8 (26%)	5 (16%)	0 (0%)	1 (3%)	3 (10%)	31 (100%)
Mother	11 (32%)	9 (26%)	5 (15%)	2 (6%)	1 (3%)	6 (18%)	34 (100%)
Siblings	5 (15%)	20 (58%)	4 (12%)	1 (3%)	3 (9%)	1 (3%)	34 (100%)
Grandparents	25 (93%)	2 (7%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	27 (100%)
Uncle	18 (56%)	6 (19%)	4 (13%)	0 (0%)	1 (3%)	3 (9%)	32 (100%)
Aunt	18 (57%)	10 (31%)	2 (6%)	1 (3%)	0 (0%)	1 (3%)	32 (100%)
Cousin	7 (21%)	18 (52%)	3 (9%)	2 (6%)	2 (6%)	2 (6%)	34 (100%)
Nephew	4 (33%)	4 (33%)	2 (17%)	0 (0%)	2 (17%)	0 (0%)	12 (100%)
Niece	4 (36%)	4 (36%)	2 (19%)	0 (0%)	1 (9%)	0 (0%)	11 (100%)
Colleague	2 (6%)	22 (64%)	4 (12%)	0 (0%)	6 (18%)	0 (0%)	34 (100%)
Other friends	4 (12%)	20 (58%)	3 (9%)	0 (0%)	6 (18%)	1 (3%)	34 (100%)
Boss	0 (0%)	5 (28%)	13 (72%)	0 (0%)	0 (0%)	0 (0%)	18 (100%)
Professor	0 (0%)	2 (7%)	21 (70%)	1 (3%)	6 (20%)	0 (0%)	30 (100%)

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Table 65 shows the languages used by women to write their SMS messages. It is obvious that most women use Arabic only when they write messages to parents and some other family members: grandparents (93%), aunts (57%), uncle (56%) father (45%), mother (32%), nephew (33%) and nieces (36%). They use less Arabic in their messages to people of their own generation: cousins (21%), friends (12%) siblings (15%) and colleagues (6%). There are no messages in Arabic sent to a boss or a professor.

A mixture of Arabic and English is mostly used in the messages sent to people of their own generation and less with others: colleagues (64%), siblings and other friends (58%), cousins (52%), nephews (33%), nieces (36%), aunts (31%), bosses (28%), parents (26%) and uncles (19%). The percentage of Arabic and English being used together is just 7% when women send messages to professors or grandparents.

As for using English alone in their messages, the percentage is much less when the subjects write messages to people of same generation and more with people of a different generation: the percentage is 72% for messages sent to bosses and 70% for those sent to professors. On the other hand, the percentage of English messages to other recipients does not exceed 19%: nieces (19%), nephews (17%), fathers (16%), mothers (15%), uncles (13%), siblings (12%), cousins and other friends (9%), aunts (6%) and grandparents (0%).

As for messages written in Arabic and French, there are just few women who use the combination of these two languages in their messages; the percentage does not exceed 6%. As for messages written in Arabic, English and French, the percentage is 20% for messages sent to professors, 18% for messages sent to colleagues and other friends, 17% for messages sent to nephews, 9% for messages sent to nieces and siblings, 6% for messages sent to cousins, 3% for messages sent to parents or uncles and it is 0% for messages sent to grandparents, aunts and bosses.

As for messages written by women in other languages, there are four subjects who use French and there are another two subjects who use German and Armenian with their family members. The percentage is 18% for messages sent to mothers, fathers (10%), uncles (9%), cousins (6%) and siblings and friends (3%).

Table 66. “Languages reported as being normally used by men to write SMS messages to social contacts”

	Arabic	Arabic/English	English	Arabic/French	Ar/En/Fr	Other	All
Father	11 (46%)	6 (25%)	3 (12.5%)	0 (0%)	1 (4%)	3 (12.5%)	24 (100%)
Mother	12 (51%)	5 (21%)	2 (8%)	2 (8%)	1 (4%)	2 (8%)	24 (100%)
Siblings	6 (25%)	13 (55%)	1 (4%)	1 (4%)	2 (8%)	1 (4%)	24 (100%)
Grandparents	15 (94%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (6%)	16 (100%)
Uncle	11 (50%)	8 (36%)	0 (0%)	0 (0%)	1 (5%)	2 (9%)	22 (100%)
Aunt	12 (52%)	7 (31%)	0 (0%)	1 (4%)	1 (4%)	2 (9%)	23 (100%)
Cousin	8 (34%)	12 (50%)	1 (4%)	0 (0%)	2 (8%)	1 (4%)	24 (100%)
Nephew	2 (40%)	2 (40%)	1 (20%)	0 (0%)	0 (0%)	0 (0%)	5 (100%)
Niece	4 (80%)	1 (20%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	5 (100%)
Colleague	3 (13%)	18 (75%)	1 (4%)	0 (0%)	2 (8%)	0 (0%)	24 (100%)
Other friends	5 (21%)	13 (54%)	1 (4%)	1 (4%)	4 (17%)	0 (0%)	24 (100%)
Boss	6 (46%)	2 (15%)	5 (39%)	0 (0%)	0 (0%)	0 (0%)	13 (100%)
Professor	1 (4%)	0 (0%)	22 (96%)	0 (0%)	0 (0%)	0 (0%)	23 (100%)

Table 66 shows the languages used by men to write their SMS messages. Similar to women, most men use Arabic only when they write messages to parents and some other family members: grandparents (94%), nieces (80%), nephews (40%), aunt (52%), mothers (51%), uncles (50%), fathers (46%) and bosses 46%. However, they use less Arabic in the messages they send to people of their own generation: cousins (34%), siblings (25%) friends (21%), colleagues (13%), and it is only 4% for messages sent to professors.

A mixture of Arabic and English is mostly used in the messages subjects send to people in the same generation and less with others: colleagues (75%), siblings, (55%), friends (54%) cousins (50%), nephews (40%), uncles (36%), aunts (31%), fathers (25%), mothers (21%), nieces (20%) and bosses (15%). The percentage Arabic and English together is 0% when men send messages to professors or grandparents.

As for using English alone in their messages, the percentage is much less when they write messages to people of same age and more with people of different age: the percentage is 96% for messages sent to professors and 39% for those sent to bosses. On the other hand, the percentage of writing messages in English to other recipients does not exceed 20%: nephews (20%), fathers (12.5%), mothers (8%), siblings, cousins, colleagues and friends (4%). The percentage is 0% for messages subjects send to grandparents, uncles, aunts and nieces.

As for messages written in Arabic and French, there are just few men who use the combination of these two languages in their messages; the percentage does not exceed 8%. As for messages written in Arabic, English and French, the percentage is 17% for messages sent to friends, 8% for messages sent to siblings, cousins and colleagues, 5% for messages sent to

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uncles, 4% for messages sent to parents and aunts, and it is 0% for messages sent to grandparents, nephews, nieces, bosses and professors.

As for messages written by men in other languages, all of these messages are in French and they are usually sent to family members. The percentage is 12.5% for the messages sent to fathers, uncles and aunts (9%), mothers (8%), grandparents (6%) and siblings and cousins (4%).

The findings of this question support those of the previous question; men's and women's preference of the language of communication is dependent on the audience. Those students' SMS code-switching is but a reflection of their daily communication practices; Arabic is mostly used in the messages sent to people of different age group whereas English is the dominant language of the messages sent to professors or bosses. As with people in the same age group, code-switching between Arabic, English and sometimes French is the key characteristic that distinguishes their messages. Once more, this corresponds with the findings of SMS messages in this study where both men and women have shown higher degrees of code-switching within intra-generational SMS messages than those within inter-generational messages. The findings of this question are also in agreement with questions ten and eleven in the interview, which are on the usage of Arabic and English in SMS messages. For those students, English has become an equivalence to formality the same as Arabic to informality.

The questionnaire, which is a mixture of self-report and opinion questions, was designed to gather as much data as possible about the students and test their code-switching behavior in general and their SMS code-switching in particular.

The questions of both the questionnaire and the interview have been formulated to complement each other and to collect all the data needed to draw a relatively clear picture of those students' SMS code-switching behavior. As aforementioned, some of the questions in the questionnaire have been designed to match certain questions in the interview, and this was mainly done in order to triangulate the main aspects of this study by checking and testing the subjects' responses to these common questions. For example, questions 2, 11, 12 and 13 in the questionnaire correspond to questions 10, 5, 6 and 7 in the interview, and confirm the same findings in each set of corresponding questions. In addition, the last two questions, 14 and 15, are highly consistent with the general findings of this study that are related to intra- and inter-generational code-switching, as well as questions 8, 9, 10 and 11 in the interview, which test students' SMS language use.

4.3. Findings from the interviews

The semi-structured interviews were divided into five sections: personal information, language background, SMS language use, reading language and future language. The interviews were conducted with all of the 58 subjects who participated in the study upon receiving their questionnaires.

4.3.1. Personal information

This section is made up of four questions; it was designed to allow participants to introduce themselves, talk freely and break the ice with the interviewer. The first three questions in the interview provide answers about student's name, major and academic year. The fourth question is about the parents' jobs and highest education qualifications.

Figure 1. Participants' academic year

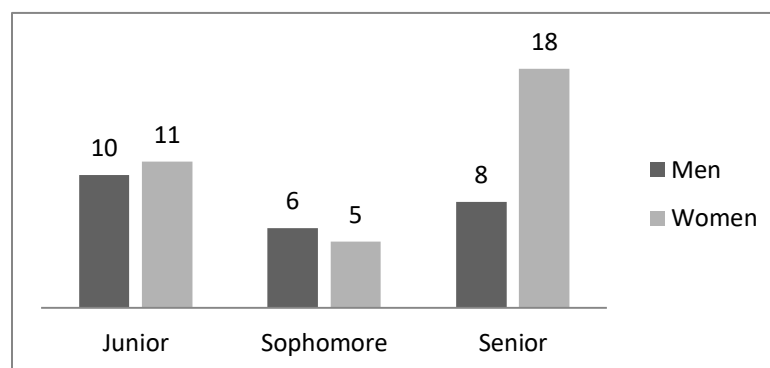


Figure 1 shows that subjects are divided as follows: Junior: 11 women and 10 men, sophomore: 5 women and 6 men, and senior: 18 women and 8 men.

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Figure 2. Subjects' major

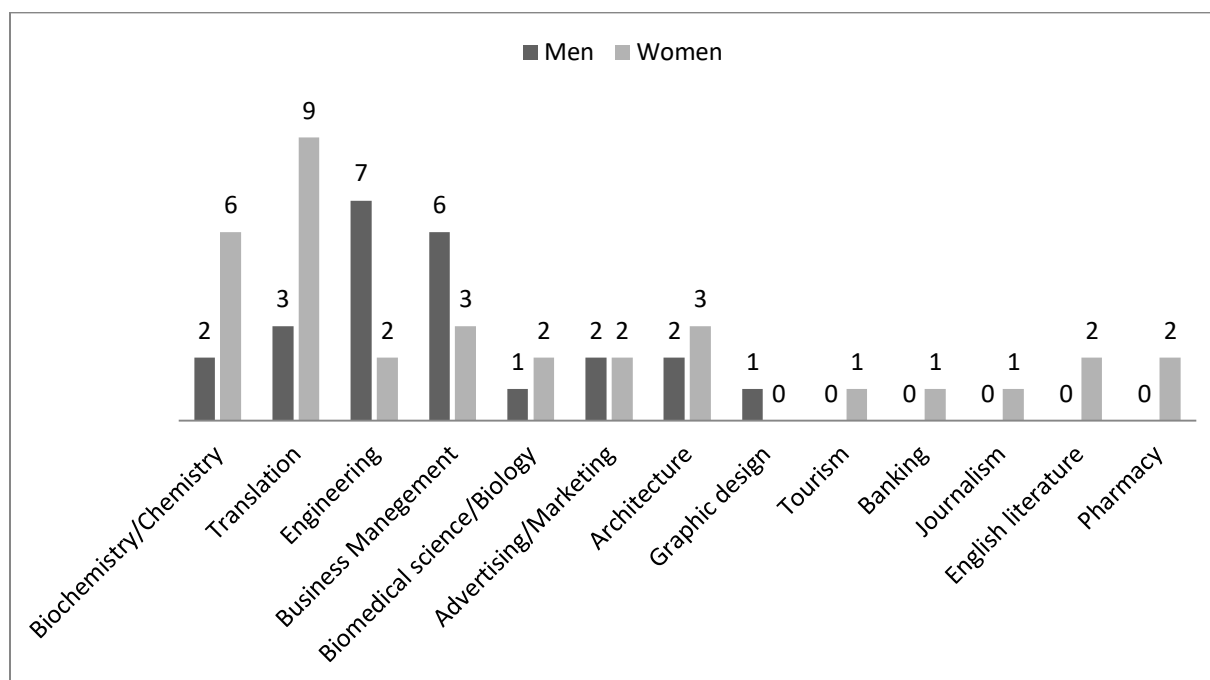


Figure 2 shows all subjects' majors. It is clear that men and women come from a variety of disciplines. Most of the men have majors in engineering (9 men) business management (6 men) and natural sciences (3 men) whereas most of the women have majors in humanities (11 women), natural sciences (8 women), and engineering (5 women). The rest of men and women are distributed across the rest of disciplines such advertising, graphic design, pharmacy, journalism, tourism and banking.

The answers to question four "What do your parents do? What is their highest education qualification?" have a strong positive correlation with the students' social class.

Figure 3. Profession of subjects' mothers

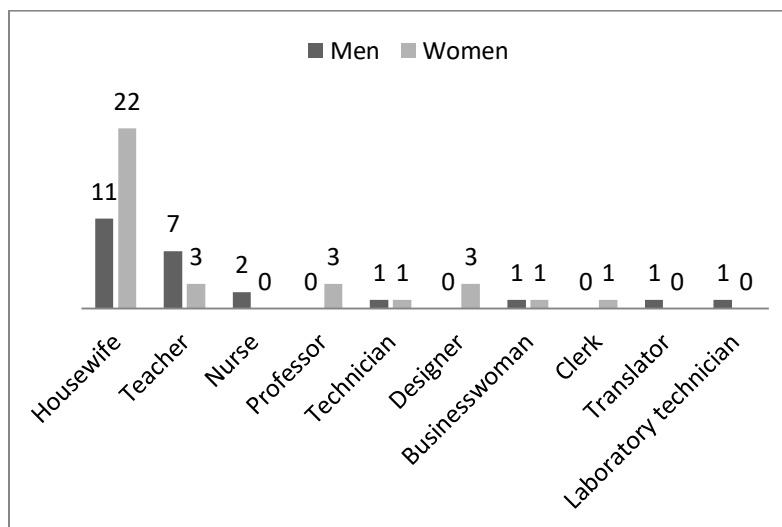


Figure 3 shows the profession of all subjects' mothers. We see that 33 of subjects' mothers (57%) are housewives; 22 of women's mothers (65%) and eleven of men's mothers (46%). We see that there are ten teachers (17%); seven of men's mothers (29%) and three of women's mothers (9%). The rest are nurses, professors, lab technicians, designers, business women, clerks and there is one translator and one laboratory technician.

All of the upper-lower class students' mothers, except one who is a clerk, are housewives (87%). As for the mothers of the lower-middle class students, there are 17 housewives (59%) and the other 12 mothers (41%) are distributed as follows: eight teachers (67%), two technicians (17%), one nurse (8%) and one jeweler designer (8%). The mothers of the upper-middle class are nine housewives (43%), three professors at universities (14%), two teachers (10%), two businesswomen (10%) and one of each of the following professions: a nurse, a translator, an interior designer, a Haute couture designer and a laboratory technician.

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Figure 4. Profession of subjects' fathers

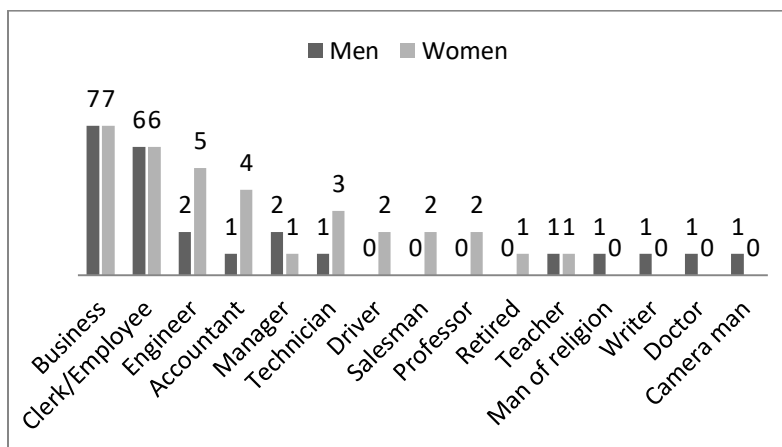


Figure 4 shows the profession of all subjects' fathers. We see that 14 (24%) of subjects' fathers are either businessmen or have their own business, seven of women's fathers (21%) and seven of men's fathers (29%). Clerks or employees constitute 12 of subjects' fathers (21%), six of women's fathers (18%) and six of men's fathers (25%). There are seven engineers (12%), five of women's fathers (15%) and two of men's fathers (8%). There are five accountants (9%), three managers (5%), four technicians (7%), two drivers (4%), two salesmen (4%), two professors (4%), two teachers (3%) a writer, a doctor, a man of religion, a camera man, and one retired father.

The fathers of the upper-lower class students are two clerks or employees (25%), two technicians (25%) and the others are distributed as follows: a driver, a salesman, one has his own business and one is retired. As for the fathers of the lower-middle class students, there are nine (31%) who have their own business, six employees or clerks (21%), three accountants (10%), another three engineers (10%), two bank managers (7%), another 2 technicians (7%), and the other four (14%) are a driver, a teacher, a writer and one doctor. The fathers of the upper-middle class professions are as the follows: four businessmen (19%), four employees at different companies (19%), four engineers (19%), two professors (9%), two accountants (9%) and the other five (24%) are a camera man, a manager, a teacher, a man of religion, and a salesman.

Figure 5. Highest education qualification of men and women's mothers

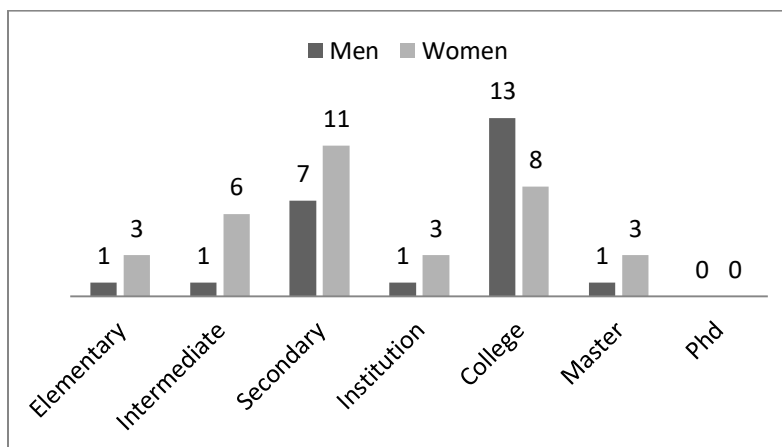


Figure 5 shows the highest education qualification of the students' mothers. We see that 21 of subjects' mothers (36%) attended college; 13 of men's mothers (54%) and eight of women's mothers (23%). We see that 18 of them (21%) finished high school, grade 12 in Lebanon, 11 of women's mothers (32%) and seven of men's mothers (29%). There are seven of them (12%) who finished intermediate school, grade nine in Lebanon, six of women's mothers (18%) and one of men's mothers (4%). There are four of subjects' mothers (7%), three, of women's mothers (9%) and one man's mother (4%), who only finished elementary school, grade six in Lebanon. There are another four (7%), three women's mothers (9%) and one man's mother (4%) who studied at an institution, equal to grade nine or high school in Lebanon. There are three women's mothers (9%) who have a Master's degree.

On the whole, none of the upper-lower class mothers finished college; only one of them (13%) finished high school and the other seven (87%) either finished elementary or intermediate school. As for the lower-middle class students' mothers, nine of them (31%) finished college; 15 of them (52%) finished high school; three of them (10%) finished intermediate school, and one of the other two (7%) finished elementary school and the other studied at an institution. Four of the mothers of the upper-middle class students (19%) have a master degree; 12 of them (57%) finished college, two of them (10%) finished high school, and three of them (14%) went to an institution.

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Figure 6. Highest education qualification of men and women's fathers

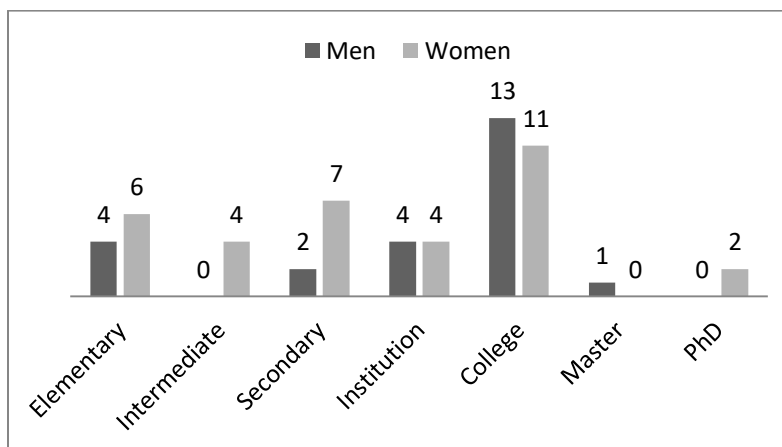


Figure 6 shows the highest education qualification of men's and women's fathers. We see that 24 of subjects' fathers (41%) attended college, 13 of men's fathers (54%) and eleven of women's fathers (32%). There are nine of them (15%) who finished high school, grade 12 in Lebanon, seven of women's fathers (21%) and two of men's fathers (6%). There are four of them who finished intermediate school, grade 9 in Lebanon. There are eight of subjects' fathers (14%), four of women's fathers (12%) and four of men's fathers (17%), who studied at an institution. Another ten of subjects' fathers (17%) finished elementary school, grade 6 in Lebanon, six of women's fathers (18%) and four of men's fathers (17%). There are two women's fathers (6%) who are PhD holders and one man's father (4%) who has a Master's degree.

Similar to upper-lower class mothers, none of the upper-lower class fathers finished college. Three of them (37%) studied at an institution; another three finished elementary school (37%), and one of the other two finished high school whereas the other finished intermediate school. As for the lower-middle class students' fathers, seven of them (24%) finished elementary school; three of them (10%) finished intermediate school; five of them (17%) finished high school; eight of them (28%) finished college; five of them (17%) went to an institution, and there is one (4%) who has a master degree. Regarding upper-middle class, three of them (14%) finished high school; 16 of them (76%) finished college, one of them (5%) went to an institution and there are two PhD holders (10%).

To recapitulate, we see that the lower the social class is, the lower the level of education is, as well as the professional occupation. The opposite is true. The higher the social class is, the higher the level of education and the professional occupation are.

4.3.2. Language background

This section is divided into the following four questions on subjects' language background.

4.3.2.1. "What languages do you know? How well?"

The first question is about languages participants know and their level of proficiency in these languages. Levels of proficiency are divided into native, excellent or fluent, very good, good and fair. These terms are familiar to the students; however, I made sure they knew the differences between them before they gave their answers.

Figure 7. Women's self-reported language backgrounds

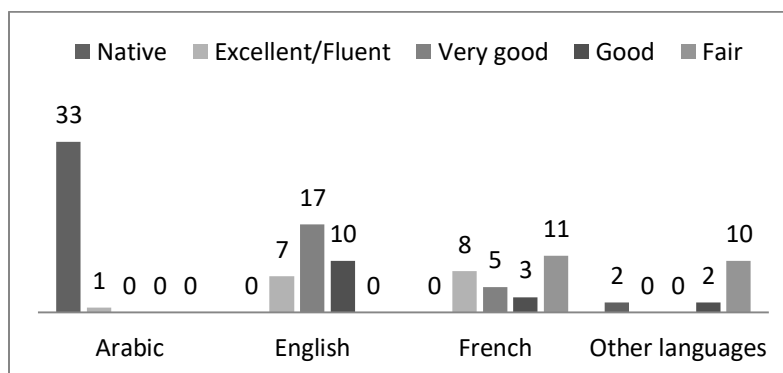


Figure 7 shows women's language backgrounds and their level of proficiency in languages they know. All of the women except one, who is Armenian but excellent in Arabic, are native speakers of Arabic. All of them also know English and their level of proficiency is as follows: seven of them (21%) are excellent, 17 of them (50%) are very good and ten of them (29%) are good. We see that 27 of them (79%) know French and their level of proficiency is as follows: eight of them (23%) are excellent or fluent, five of them (15%) are very good, three of them are good (9%) and eleven of them (32%) are fair in French. As for other languages, there are two native speakers of Armenian and German and there are another 12 women (35%) who are either good or fair in Spanish, Italian and Turkish.

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Figure 8. Men’s language background

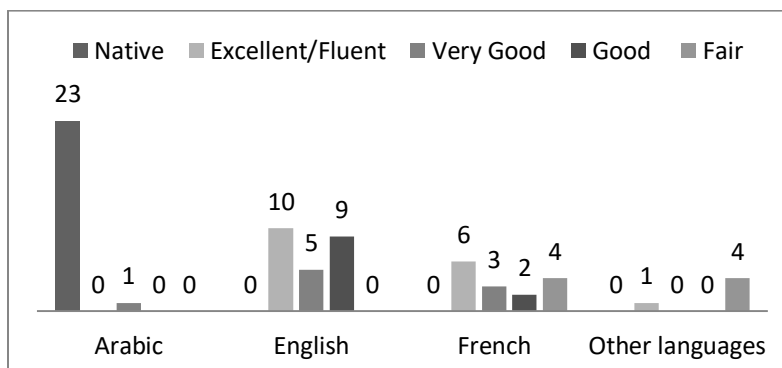


Figure 8 shows men’s language background and their level of proficiency in languages they know. All of the men except one, who is Lebanese but a native speaker of French, are native speakers of Arabic. All of them also know English and their level of proficiency is as follows: ten of them (42%) are excellent, five of them (21%) are very good, and nine of them (37%) are good. We see that 15 of them (63%) know French and their level of proficiency is as follows: six men (25%) are excellent or fluent, three of them (13%) are very good, two of them (8%) are good, and another four of them (17%) are fair in French. As for other languages, there is one man (4%) who is excellent in Swedish (he spent most of his childhood in Sweden) and another four subjects (17%) who are fair in Spanish, German, Persian or Italian.

4.3.2.2. *“Have you lived abroad?”*

Almost all of the students reported not having lived abroad for long periods. LU W6 was born in Germany and lived there until she was ten. Her mother is German and her father is Lebanese; thus she is native in both Arabic and German. LIU M4 lived most of his life in Yemen, and 90% of his studies were in Arabic, yet he is very good at English. NDU M1 was born in Canada and lived most of his childhood there; he is a native speaker of French. He speaks Lebanese Arabic but does not write nor read Standard Arabic. LAU M2 spent a great part of his childhood in Sweden, so he is native in Arabic and excellent in Sweden. As for other students who lived abroad, it was either for a short period of time or in one of the Arab-speaking countries so their linguistic behavior was not affected.

4.3.2.3. “At school, what was the percentage of your study material given in Arabic versus English (or other languages)?”

Figure 9. Language(s) of study material at school of men and women

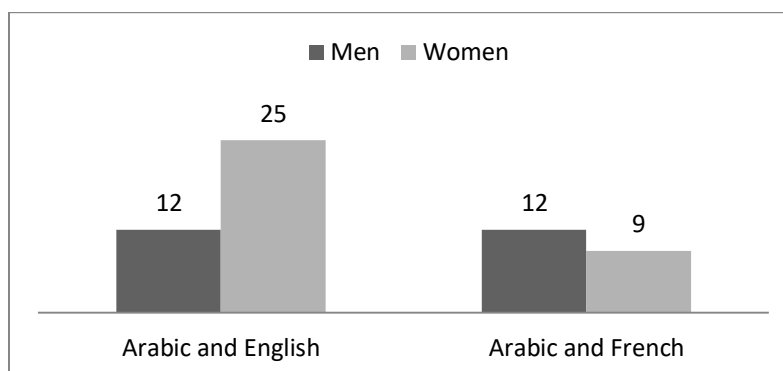


Figure 9 shows that the study material of 25 women (73%) was given in English and Arabic. The percentage was between 10% and 90% Arabic and 10% to 90% English or vice versa, but mostly it was 50% Arabic and 50% English. The study material of nine women (27%) was given in Arabic and French; the percentage of their study material was between 10% and 30% Arabic and 70% and 90% French.

As for men, the study material of 12 of them (50%) was given in English and Arabic. The percentage was mostly between 10 and 90% Arabic and 10 to 90% English or vice versa except for two students (8%) whose study material was 50% Arabic and 50% English. The other 12 men (50%) studied in Arabic and French; the percentage of their study material was between 10 and 30% Arabic and 70 and 90% French.

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4.3.2.4. “How about everyday life away from college, how much do you use Arabic versus English (or other languages)?”

Figure 10. Language(s) used away from college

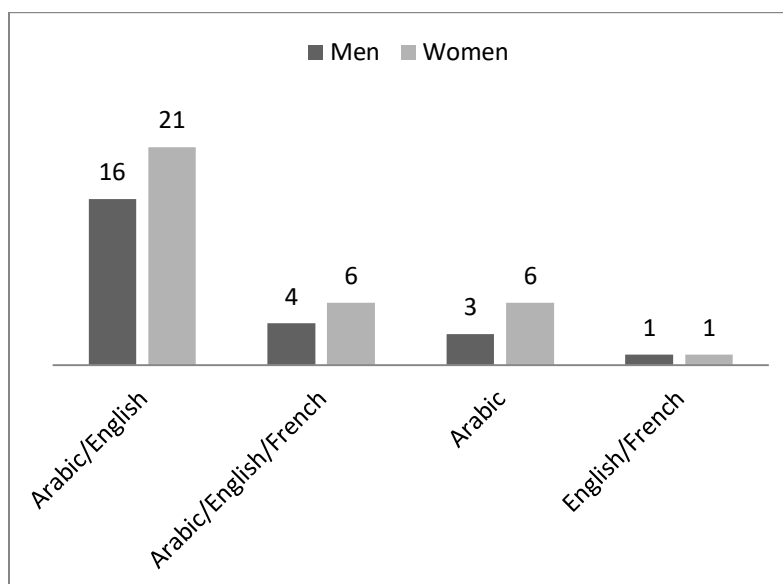


Figure 10 shows how much Arabic, English or French the subjects use in their everyday life away from college. We see that 19 women (56%) use 80 to 100% Arabic, nine of them (26%) use 50 to 70% Arabic and three of them (9%) use less than 50% Arabic. There is one student who uses 70% Armenian and 30% Arabic, English and French. As for the men, 20 of them (83%) use 70% to 100% Arabic and three of them (13%) use less than 50%. There is one student (4%) who uses 100% English and French.

A good number of students reported that using a particular language is dependent on the person, or the audience, and the place. LIU M3 said: “in certain places, I use English especially with people who do not know Arabic”. Similarly, LIU M1 said: “Depending on the topic and location, we use Arabic, English or both” as well as LIU M2 who stated: “sometimes English and other times Arabic; it depends on where we are sitting”. LIU M5 believes that “language choice depends on the person”. LU M1 reported that he uses English sometimes but he uses it more with “girls”, yet according to him, “rarely English outside”, or away from college. LAU M1 said that most of his male friends do not code-switch and that they only use Arabic. NDU M3, who does not read nor write Arabic, said, “it depends on whom I am talking to, but I mostly use Arabic”, Lebanese Arabic or dialect. A rather shocking answer was that of LIU M4, whose

study material at school was almost all in Arabic (90%) yet he said that he uses 70% to 80% English in his daily life away from college, and “sometimes it is only English for weeks”. On the other hand, LIU M3 declared, “I was raised in a village, and we’re proud of our Arabic language”. He added that he uses only Arabic with friends inside and outside the university. In the same vein, when she was asked why she would use Arabic, LIU W7 replied, “Arabic is my language, I can express myself better and not all of the people know English or Romanized script”.

4.3.3. SMS Language Use

This section is divided into the following four questions.

4.3.3.1. “What language do you use in writing SMS messages, English, Arabic in Arabic script, Arabic in Romanized script?”

Figure 11. Reported SMS language use

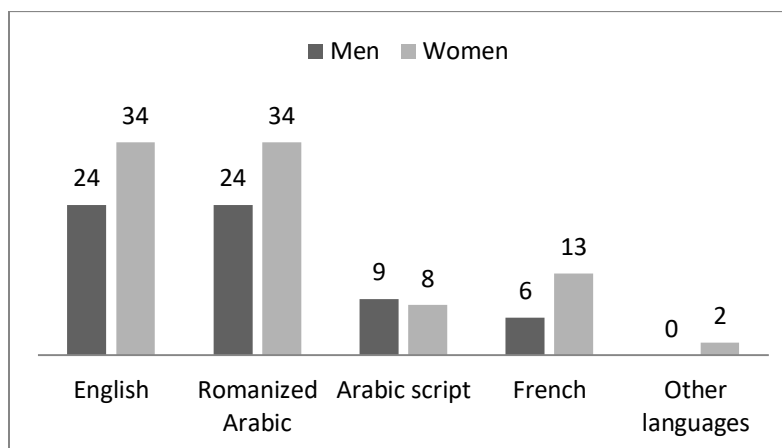


Figure 11 shows that 100% of the women report using English in their SMS messages. Some said they write messages using English only for specific people such as parents, siblings or friends. LIU W1, for example, said that she uses “pure” English when she sends messages to her dad because “he does not like the concept of writing Arabic in Romanized scripts”, and that the rest of her messages are a mixture of English and Romanized Arabic. Others said they rarely use English in their messages, and some others said they just use words such as “hi”, “thanks” and

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“sorry”. For instance, LIU W3 said that she rarely uses English except for words such as “hello”, “hi”, “O.K.”; she even said that usually there is “no combination” of languages in her messages. On the contrary, LIU W4 said that her messages are a mixture of Armenian, English, Arabic and French - “no pure language at a time”.

One of the fascinating things I found was in the messages of LU W6, she uses German with her mother, Standard Arabic with her father, English with her professors and blending of English and, of course, Lebanese Arabic with her siblings, friends and colleagues. Actually using Standard Arabic in writing messages, especially among young people and particularly with parents, is something weird and rare. IUL W5 said she uses English “with no abbreviations” with her fiancé, Arabic and French with the others, and either English or French with her professors.

As for Arabic, eight women (23%) said they use Arabic script in their messages, and another 23% said they rarely use it. However, 100% of them report using Romanized Arabic in their messages.

As for French and other languages in women’s messages, 13 women (38%) use French in their messages, and another one (4%) said she rarely uses it. Two women (6%) use other languages in their messages; one of them (3%) uses Armenian and the other one (3%) uses German. One of the participants said that she uses French with her mother, Arabic with her father and English and Arabic with her siblings. NDU W6 uses only French in the messages she sends to all members of her nuclear family, her parents and her siblings. As for other people, she said “it depends on the person”. One of the most interesting answers regarding using French in SMS messages was given by NDU W7; she said that she uses French in her SMS messages when she is in “a good mood”.

Like the women, 100% of the men use English in their SMS messages. Some said they just use it for greetings such as “hi”, “hello” or “hey”, while others said that they use English only in their messages with some people. Others said that 50% of their messages are usually written in English.

As for Arabic in men’s messages, nine of the men (37%) use Arabic script in their messages, and another two students (8%) said they rarely use it. On the other hand, 100% of men use Romanized Arabic in their messages, and there are six men (25%) who use French in their messages. NDU M1 for example, said that he uses French with his family members but French

and English “with the rest”. NDU M5 said: Romanized Arabic is mainly used with male friends; with females it is either English or French”. This student, for example, I found two birthday wishes messages in his messages; the one sent to his male friend was totally in Romanized Arabic whereas the one sent to a female friend was written in English.

One of the most exciting answers was given by NDU M1, who drew a comparison between the SMS writing habits of both men and women. He believes that men write “short” messages and “take their time to reply” whereas women “love to talk a lot” and “give details” in their messages and that opposite to “guys”, they tend to “reply immediately”.

4.3.3.2. “Do you use English in SMS messages?”

This question is divided into two parts; the first part is whether participants use English in their SMS messages and if so, in what circumstances they use it. The choices were as follows:

First: formal circumstances: in work, in university, with professors, or others.

Second: informal circumstances: with native speakers of English or those who do not know Arabic, with family members, with friends, with relatives or others.

The second part of the question is about the reasons for using English in SMS messages. The reasons students had to choose from were: I can type it quickly, it is more prestigious, I feel more comfortable, or other reasons.

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Figure 12. Reported use of English in SMS messages

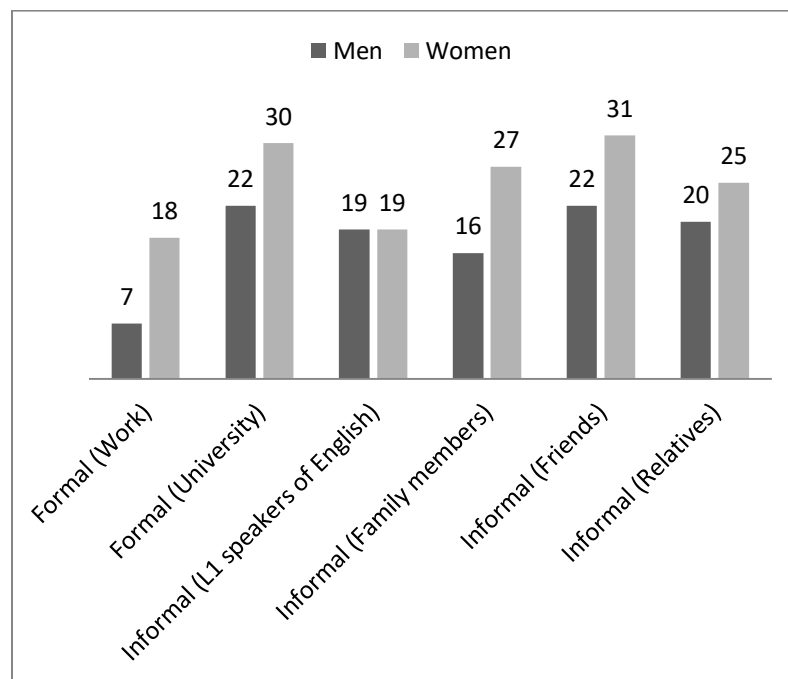


Figure 12 shows the answers to the first part of the question, “Do you use English in your SMS messages and if so, in what circumstances do you use it?”. As for formal circumstances, all 18 women who work (53%) use English in the SMS messages they send to their bosses, 13 women (72%) use English only, and the remaining five women (28%) use Arabic and English. As for men, out of the 13 men who work (54%), seven of them (54%) use English in their SMS messages to bosses; there are five of them (39%) who use English only, and there are another six men (46%) who use Arabic only. As for using English in formal messages sent to professors, all of the 30 women (88%) who send messages to professors use English; two of them (7%) use English and Arabic; 21 of them (70%) use English only, and there are six women (20%) who use Arabic, English and French in the messages they send to professors. Most of the women who use languages other than English in their messages to professors are translation students. As for men, out of the 23 men (96%) who send messages to professors, 22 or 96% of them use English only, and there is one man (4%) who uses Arabic in his messages to professors.

There was a kind of consensus among subjects; with professors, there is no code-switching; it is either English or Arabic. However, the findings show that Arabic has been rarely used in the messages sent to professors, and if so, it was mainly in the messages sent by

translation students. The majority of them, if not all, believe that English has to do with formality: they use English when writing their emails even though they use a mixture of languages in all other CMC means. NDU W2 said, “Chat language applies to all except university or work-related communication”. According to her, “formality at university” and “informality everywhere else”. NDU M1 said that he uses English with professors but “a combined language with the rest”. As for LIU W4, who is Lebanese Armenian, when it comes to formality, she would use English, but informality has to do with all languages together, Armenian, English, French and Arabic. In some of her messages there was an amazing combination of all the aforementioned languages.

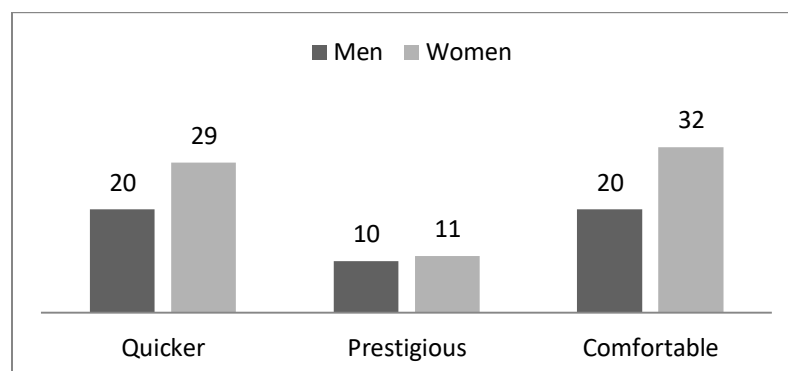
As for informal circumstances, 19 women (56%) and 19 men (79%) said they use English only in their messages to L1 speakers of English or those who do not know Arabic. There are 27 women (79%) and 16 men (67%) who use English with family members especially those who live abroad. Some of them use only English especially with parents and siblings; some said they either use English or French in the messages they send to parents. Others use a mixture of English, Romanized Arabic and occasionally other languages in their messages. A few of them said they do not use much English in their SMS messages to family members and others said they rarely use it. There are 31 women (91%) and 22 men (92%) who use English when they send messages to friends. Some of these messages are written in English only, but most of them are a mixture of English, Romanized Arabic and sometimes other languages. As for messages sent to relatives, 25 women (73%) and 20 men (83%) use English in their messages. Some students said they just use English words such as “hi”, “thanks” and “sorry” in messages they send to friends. IUL M1 believes that using English in SMS messages is “done unconsciously” when “you do not find the equivalence in Arabic”, especially regarding technical words. As for code-switching in his messages, he said he resorts to it when words “don’t have equivalence in Arabic or English”. As well, LIU M4 said that “some phrases do not exist in Arabic and vice versa”.

Many said they do not use it frequently with family members except for those living abroad, and some others said they rarely use it, especially English alone. NDU W3, who studied at a French school, uses English with parents and some African and American friends, but a mixture of English and Arabic with other family members and colleagues. NDU M2 as well said that with family members, “informality and combined language” while with his boss he uses

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“formal”, yet Arabic with Romanized script”. However, with his professors, he uses “formal English”. According to IUL W3, it is “easier” and “faster”, but it all “depends on the recipient”.

Figure 13. Reasons for using English in SMS messages



The second part of the question was, “Why do you use it [English in SMS messages]?”. Figure 13 shows that 29 women (85%) and 20 men (83%) said they prefer to use English in their SMS messages because they can type it quickly. Only nine women (26%) and eight men (33%) said that using English in SMS messages indicates prestige. Another two women (6%) said they do not think that using English in SMS messages is very prestigious, and two men (8%) also said it is a little prestigious. We see that 32 women (94%) and 20 men (83%) said they feel more comfortable when they use English. Other reasons given for using English were: “Expressing yourself in English is better”, “It is easier”, “It is faster”, “English words are more expressive”, “There are certain words/expressions that can only be understood in English”, “English is better to deliver the message” and “it delivers the message faster”, “Practical”, “We are more fluent in English”, “We are used to use certain words in English”, “It gives a better meaning”, “It allows you express yourself easily” and “We are more used to it”, the last-mentioned being said by many students. LIU W4 said something interesting on why she uses English in her messages: “time is of desperate need”; she believes English is faster and more practical.

I got a brilliant answer that might clarify the main reason behind this phenomenon from LIU M1 who said: “We have a gap between spoken and written Arabic ‘Fusha’[the Standard Arabic], and that’s why you can’t express yourself well; we need to find a language that is the same, spoken and written.” Among many others, LIU M3 said that English sometimes makes sentences shorter; instead of three words, we can use only one”. NDU M5 believes it “delivers the message”. As for IUL M3, he believes that it is more prestigious to use English with

colleagues”. Similarly, LIU W7 declared that “English is a little bit prestigious with friends”. IUL W6 said that some English words or terms are used more in our daily life, and that English allows writing shorter messages and thus a person can send longer messages. In general, the maximum length of a message written in Latin script is 160 characters while it is only 70 characters in messages written in Arabic script.

4.3.3.3. Do you use Arabic in SMS messages?

This question is divided into two parts: the first part is whether participants use Arabic in their SMS messages and if so, in what circumstances they use it. The second part of the question is about the reasons for using Arabic in SMS messages. The students were asked to choose from: “I can type it quickly”, “It is more prestigious”, “I feel more comfortable” or other reasons.

Figure 14. Arabic in SMS messages

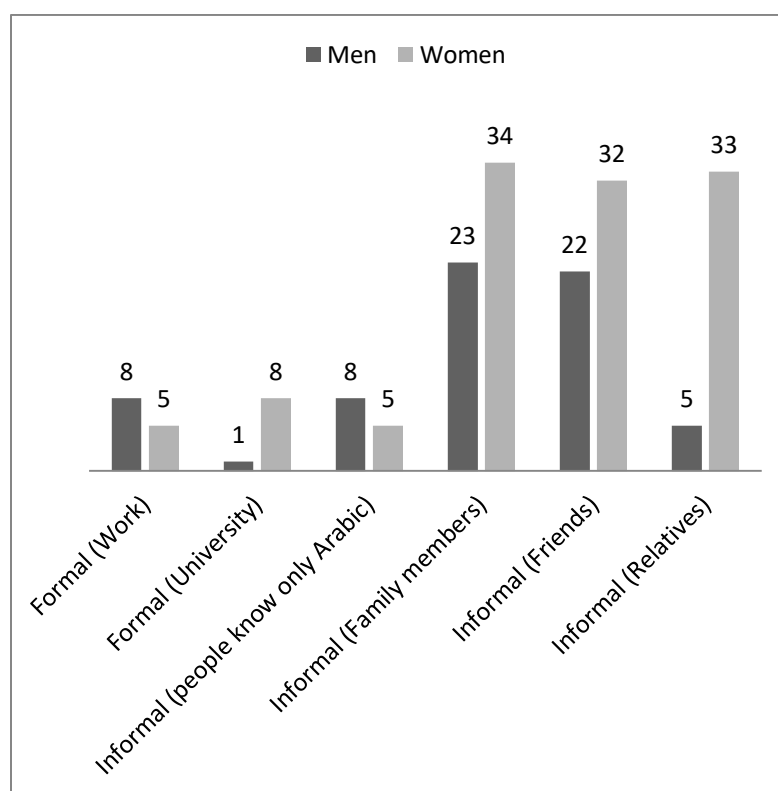


Figure 14 shows the answers to the first part of the question: whether participants use Arabic in their SMS messages and if so, in what circumstances they use it. As for formal circumstances, there are 13 women (72%), who reported using Arabic in their messages, but

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none of them uses it without English. There are only five women (28%) of those who work, 18 women (53%), who use Arabic in the SMS messages they send to their bosses. As for men, out of 13 men who work (54%), there are eight (61%) who use Arabic in their SMS messages to bosses; there are six of them (46%) who use Arabic only, and there are another two (15%) who use Arabic and English. As for using Arabic in formal messages sent to professors, out of 30 women (88%) who send messages to professors, there are eight women (27%) who use Arabic, but it is used either with English or with English and French. There is only one man (4%), out of the 22 (96%) men who send messages to professors, who uses Arabic in such messages. None of the women reported using Arabic script in formal circumstances such as work or university. Three men reported using it in formal circumstances and two of them said they use it with co-workers.

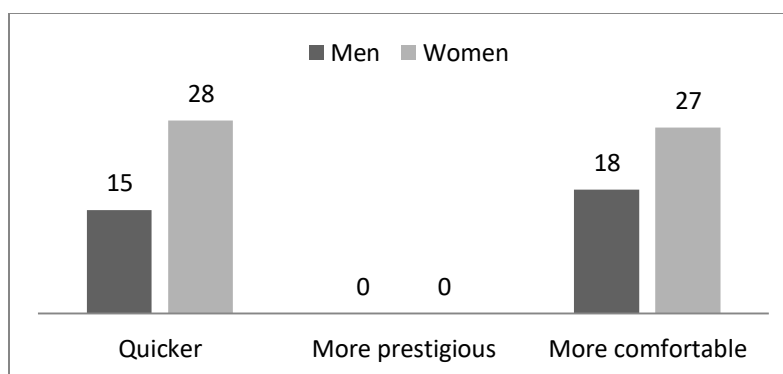
As for informal circumstances, there are only five women (15%) and eight men (33%) who said they usually use Arabic script with people who do not know Romanized Arabic or English. All women (100%) and 23 men (96%) said they use Arabic when they send messages to their family members, but the majority usually use Romanized Arabic; they use Arabic script with certain members in their families who do not know Romanized Arabic such as parents or grandparents, and they rarely use it with siblings. As for friends, 32 women (94%) and 22 men (92%) use Arabic with friends, but almost all of them use Romanized Arabic. There are 33 women (97%) and 20 men (83%) who use Arabic in the messages they send to relatives. Again, most of these messages are usually written in Romanized Arabic and sometimes in English, French or a mixture of languages. Arabic script is used only with relatives who do not know Romanized Arabic, such as aunts, uncles or old people.

Most of the men and women said they rarely use Arabic script in their SMS messages and would only use it if the receiver did not know Romanized Arabic or English, such as parents, aunts, uncles or grandparents. Some said they prefer calling by phone rather than using Arabic script, especially when the receiver is an old person. Among others, LIU W1 said: "I forward messages written in Arabic for those who do not know English, but I do not write them". Both LIU W2 and W3 said they use Arabic script when they send greetings on social and religious occasions such as "Eid al Fitr" and "Eid al Adha" only for family members who do not know English. Also, IUL W2 and W3 said that they use Arabic script sometimes to send messages to those who do not read the Romanized script such as their students' parents, neighbors or family

members who do not know English. NDU W6 said that using Arabic in SMS messages depends on the relation.

The women generally believe that Romanized Arabic is easier and has become a common language. One of the students said about Romanized Arabic, “this trend is very Lebanese”. In a little bit different view, LIU M4 said: “I do so because everyone is using it although I feel weird doing this; I prefer using Arabic script when writing something in Arabic”.

Figure 15. Reported reasons for using Arabic in SMS messages



The second part of the question was, “Why do you use it [Arabic]?” Figure 15 shows that 28 women (82%) and 15 men (63%) said they use Romanized Arabic in their messages because they can type it fast. Many refrain from using Arabic script because it is difficult to type and they are not used to it: one student said that typing in Arabic script is time-consuming. As for the reason, none of men and women said that using Arabic in SMS messages is more prestigious, while 27 women (79%) and 18 men (75%) said it is more comfortable to use Arabic. Other reasons given for using Arabic in SMS messages are the following: “It is easier”, “It is more expressive”, “We are used to it” and “We can express ourselves better in Arabic”.

4.3.3.4. “If all mobile keypads were multilingual, do you think that would affect your language use on mobile phones?”

Question 12 is about multilingual mobile keypads. Only seven women (21%) and nine men (37%) said they prefer multilingual mobile keypads; the rest of them (79% of the women and 87% of the men) said they do not mind not having multilingual keypads. Most of the students said they do not mind having a multilingual keypad because it would not affect their texting habits at all. As long as they can forward Arabic messages, or even call, so why would they

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bother themselves doing something they think it is “hard” and “time consuming” and simply “not used to”. Their language use has been shaped by the inseparable connection between the English language and different means of technology they are involved in. The most common answers among most of the subjects are that they got “used to the English keypad” or “I don’t know how to type with Arabic keyboard or keypad”, and sometimes “I don’t like the Arabic keypad”. Some of the things they said were: “Easier to type”, “It is a habit”, “A trend”, “Because of technology, English is the language of technology”, “It doesn’t make a difference because texting in Arabic is not something I am dexterous in”, “We are used to English keypad”, “It is a kind of prestige”, “Arabic script is difficult for writing; it is difficult to find letters” and “I use English letters and numbers, but not necessarily words”.

Although LIU W4 writes a good deal of her messages in Armenian, especially those sent to her family members and her fiancé, she said that she has not installed Armenian font on her phone and she only uses Latin script because it is easier to type. However, she said it might be useful if her mobile had the capacity to use Arabic or Armenian script because she will develop the ability to text in either language. One brilliant answer was given by NDU W1, “people tend to use code-switching, or English particularly, because it is faster and easier especially that BBM and Whatsapp allow you to be connected 24/7”. She believes that English or using Latin script gives you the freedom to “summarize or write shorter words” and “delete vowels” and thus use “acronyms”.

4.3.4. Languages used for reading and writing

This section is divided into four questions. The first three questions are about what participants usually read; each of these questions is divided into three parts: “Do you read newspapers, magazines or books?” “Which ones?” “What language?” The last question is about things they write regularly other than SMS messages and again, in what languages they write them. There were certain differences between men and women regarding the type of things they read, the frequency of reading and the language of what they read.

4.3.4.1. Newspapers

The first question in this section is divided into three parts: “Do you read newspapers?”, “Which ones?” and “In which language(s)?”

Figure 16. Reported frequency with which newspapers are read

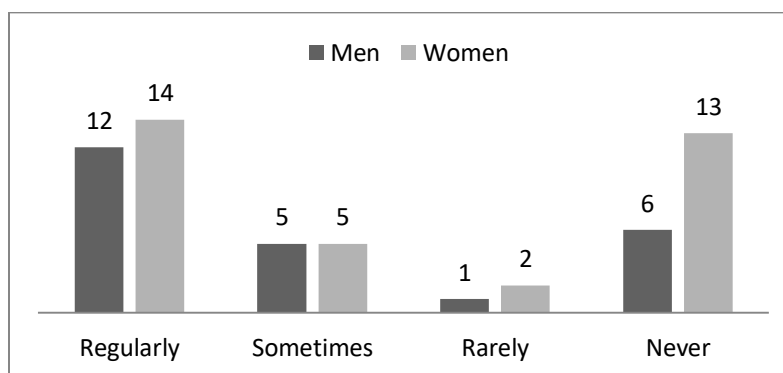


Figure 16 shows that 14 women (41%) and 12 men (50%) report reading newspapers regularly; some of them read online newspapers. There are five women (15%) and five men (21%) who do so sometimes or not regularly, and another two women (6%) and one man (4%) who rarely read newspapers. However, there are 13 women (38%) and six men (25%) who do not read newspapers at all.

As for the newspapers they read, they are divided according to the languages:

Arabic: Lebanese newspapers such as *Assafir*, *Annahar*, *Addiyar*, *Alakhbar* and *Albalad*

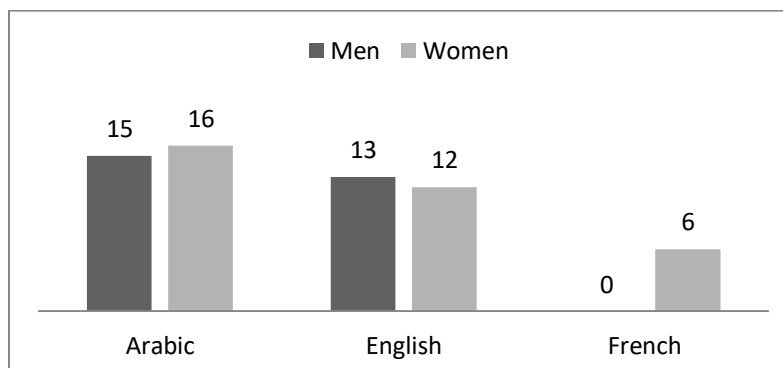
English: *Daily Star*, Lebanese newspaper, *New York Times*, *BBC website* etc.

French: *L'Orient and Le Jour*, Lebanese newspaper.

The third part of this question is about the language(s) the subjects usually read newspapers in. Figure 17 shows that there are 16 women (47%) and 15 men (63%) who read Arabic newspapers. There are 12 women (35%) and 13 men (54%) who read English newspapers. As for the rest of subjects, there are six women (18%) who read French newspapers, but none of the men read any French newspapers, even though some of them are fluent in French.

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Figure 17. Language of newspapers

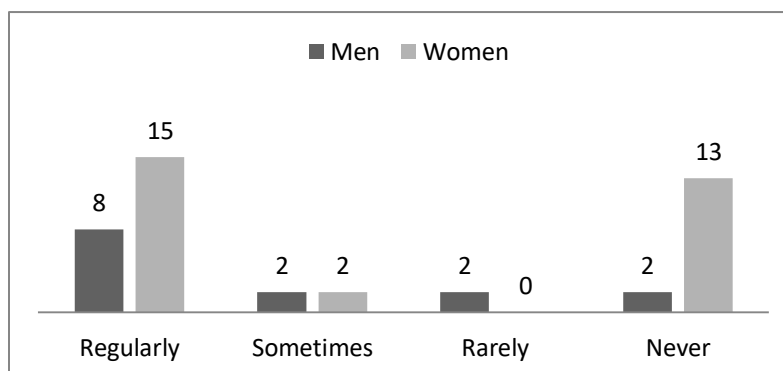


4.3.4.2. Magazines

The second question in this section is divided into three parts: “Do you read magazines”, “Which ones” and “In which language(s)?”

Figure 18 shows that 15 women (44%) and eight men (33%) read magazines regularly; some of them read online magazines. There are two women (6%) and two men (8%) who do so sometimes or not regularly, and another two men (8%) who rarely do. On the other hand, there are 17 women (50%) and 12 men (50%) who do not read any magazines at all.

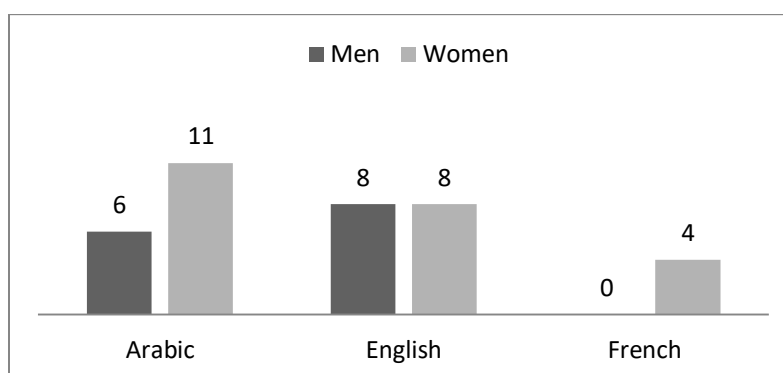
Figure 18. Reported frequency with which magazines are read



Women report usually reading social magazines and those related to science, fashion and health. Some also read magazines related to their studies. Men usually read sports magazines, especially those about cars; they also read scientific, social and economic magazines. Some also read magazines related to their studies.

As for the languages they read magazines in, some women read in one language but most of them read in two or even three languages: Arabic, English and French. Figure 19 shows that there are eleven women (32%) who read in Arabic, another eight (23%) who read in English, four (12%) who read in French and one (3%) who reads in German. As for men, some of them read either in Arabic or English, but most of them read in both languages. None of them reads in French. There are six men (50%) who read in Arabic and another eight (33%) who read in English.

Figure 19. Language of magazines read



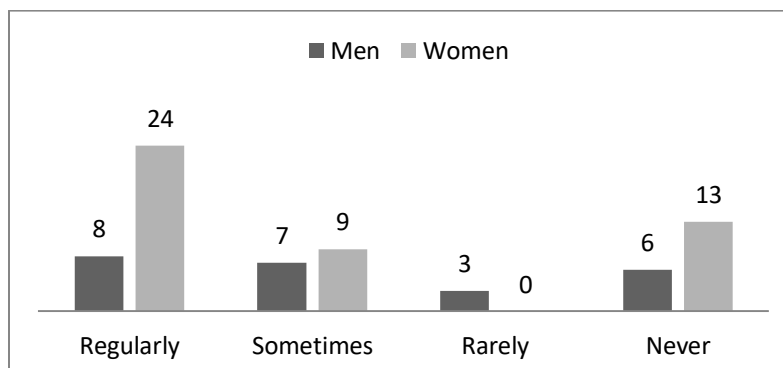
4.3.4.3. Reading of books

The third question in this section is divided into three parts: “Do you read books”, “Which ones” and “In which language(s)”.

Figure 20 shows that there are 24 women (71%) and 8 men (33%) who report reading books regularly. There are nine women (26%) and seven men (29%) who do so sometimes or not regularly, and another three men (12%) who rarely do. On the other hand, there are 13 women (38%) and six men (25%) who do say they do not read any books at all.

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Figure 20. Reported frequency of reading books



Both men and women report reading books related to their major. Women mostly read stories and novels, mainly romantic, in addition to cultural, social, psychological, scientific and nonfiction books. They also read best-sellers and books related to health, religion and poetry. As for men, they also like to read stories, but they mainly read books about science, adventure and religion. They also read spiritual, social, mystery, psychology, philosophy, poetry and nonfiction books. Among others, LIU W1, LU M1 and NDU W1, said that they will not read unless they are “obliged” or “interested in a title of a book”.

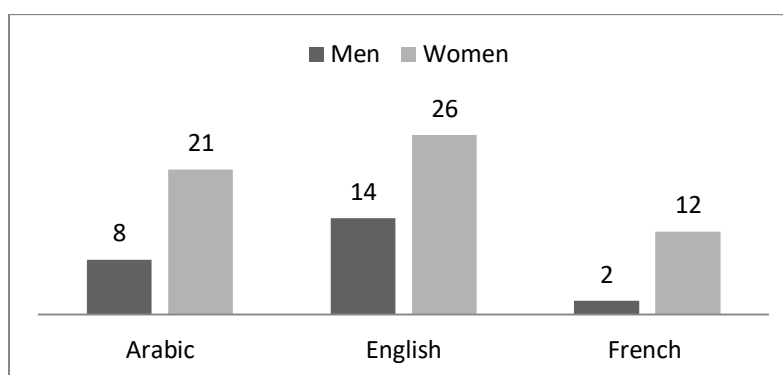
As for the languages they read books in, some women read in one language but most of them read in two or even three languages: Arabic, English and French. Figure 21 shows that there are 21 women (62%) who read in Arabic, another 26 (76%) who read in English and 12 (35%) who read in French. As for men, some of them read in either Arabic or English, but most of them read in both languages and just two of them (8%) read in French. There are eight men (33%) who read in Arabic and 14 men (58%) who read in English.

I have noticed that the percentages of the things they read differ considerably sometimes. If we add the percentages of regularly and sometimes, we find that for newspapers, the frequency is 71% for men and 56% for women. As for magazines, it is 41% for men and 50% for women, and surprisingly, it is 63% for men and 97% for women when it comes to reading books. I have also noticed that despite the fact that some of the men are fluent in French, they almost do not read in French at all, except two of them (4%) who read books. However, as for the percentage of women’s reading in French, it is 18% for newspapers, 12% for magazines and 35% for books. It would be interesting to find if there is relation between the frequency of reading and their

reading language preference on one side and the percentage of their SMS code-switching on the other.

Among some of the interesting things I have noticed in the answers on reading language was what LAU W1 said about the language she uses to read; she reads newspapers in Arabic, magazines in English and Books in English and French. NDU M2 said: “I feel more comfortable with speaking and listening in Arabic; however, I feel more comfortable with reading and writing in English”.

Figure 21. Language of books read



4.3.4.4. “What kind of things do you write regularly (besides SMS messages)? In what language?”

The last question in this section is about what participants write other than SMS messages, and the languages they write in. Almost all of the participants, men and women, use different social media applications such as Whatsapp, Twitter and Facebook to communicate with others, as well as writing emails. Most of them said they use the same language they use to write their SMS messages, mainly a mixture of Arabic in Romanized script and English. However, most of them said they use only English when they want to post something on Facebook or when they want to update a status; some said they might use Arabic or French for posting and updating a status on Facebook but there is almost no code-switching. Most of them said they use English alone when they write emails. NDU M2 said he is “more formal with emails”, but “mostly informal with other means of media communication”. Some of them write poetry or stories in English or Arabic. NDU M4, for example, wrote 56 poems and songs in English. NDU W3 said: “SMS, email, MSN, Facebook, BBM and Whatsapp have become the same regarding the way we write

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and speak; it is the same ‘chat language’”. According to LIU W4, “it is faster to use a combination of English and Arabic” in communication media, like chatting for example”.

4.3.5. Future Language Use

This section is divided into four questions that ask the subjects to predict the future use of languages in Lebanon, as well as which languages the participants think they will be using themselves.

4.3.5.1. “As for the French language in Lebanon, do you think that it is growing or declining?”

The first question is about the future status of the French language in Lebanon. There are 31 women (91%) and 23 men (96%) who believe that French is declining in Lebanon. There are only two women (6%) and one man (4%) believe it is stable and one woman who believes it is growing. Although she said the status of French is stable, she believes that “English is growing”. AUCE W1 said: “French is declining because of technology” that is strongly related with the English language. Reflecting the view of some Lebanese people, NDU M1, believes that no matter what, French will continue to be “a prestigious language”.

4.3.5.2. “What are you going to be doing in ten years? Or what do you like to be in ten years’ time?”

The second question asks about the participants’ predicted or desired future in ten years’ time. Some said they would be pursuing their education, but most of them saw themselves doing something related to their major. Others said they would have their own business, or they would be helping in a family business. However, there are some who want to fulfill dreams that have nothing to do with what they are studying, such as becoming a football player or a coach or even taking part in politics. Others do not see themselves working in Lebanon; they want to live abroad and work in international companies.

4.3.5.3. “What language do you think you will be using?”

The third question in this section tackles the languages participants think they will be using in the future. Figure 22 shows that there are 16 women (47%) as well as ten men (42%) who think they will be using English. There are ten women (29%) who predict they will be using Arabic but

simultaneously with English, and another ten men (42%) who see themselves using Arabic and English. Another five women (15%) will be using either French or French and English together, two women (6%) will be using a mixture of Arabic, English and French, and another one woman (3%) will be using Arabic, English, French and Spanish; this woman is studying translation. As for the rest of men, there is one man (4%) who will be using only Arabic; another one, who is a translation student, believes he will be using a mixture of Arabic, English, Spanish and Persian; another will be using Arabic and English or Arabic and French; the last one said he will be using English and Chinese.

The followings are some of the interesting answers given by students concerning their preference of using a certain language or languages in the future. LU W4 associates good jobs with English language. Not far from her, LIU W1 said that English is the future language in Lebanon due to the dominance of technology as well as its companion, English, and that is why people are increasingly preferring English education. Among many other subjects, she believes that “English is better at work”. Also LIU M6 believes that English represents the future, and that English is “mostly needed” for his future job, computer-science. NDU M6 believes that “English is a global language”, and that his future language depends mostly on where would he live and work in the future. For him, Lebanon was not an option; he said that he would either live in the United States or in France and consequently he will be either using English or French. For NDU M6, English will be the language of work and French for socialization.

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Figure 22. Languages predicted as being used in the future

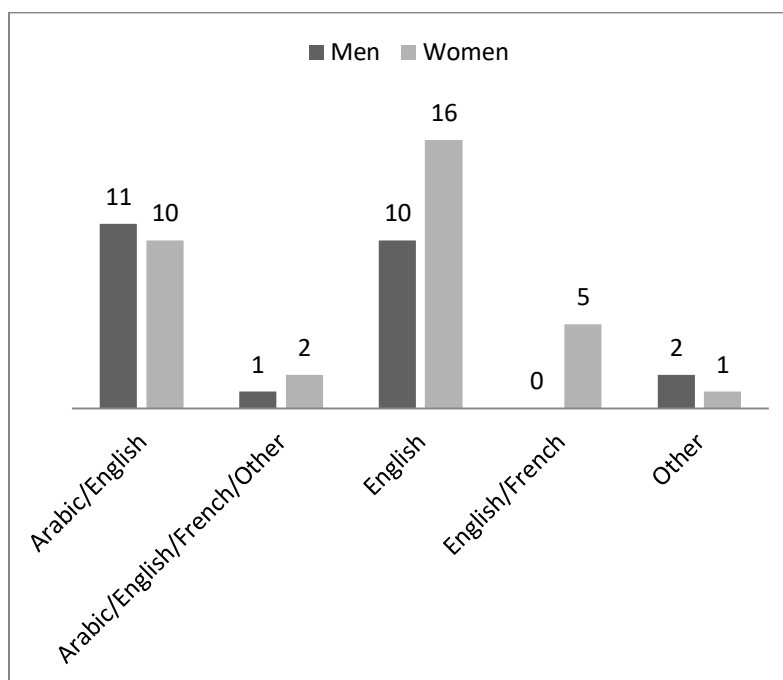
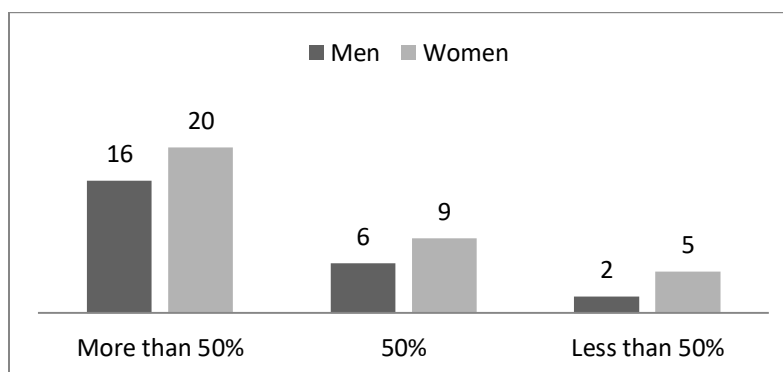


Figure 23. Percentage of English in predicted future language use



4.3.5.4. "What is the percentage of English you will be using in your daily life?"

The last question in this section and in the interview as well is about the percentage of English language participants will be using in their daily life in the future. Figure 23 shows that 20 women (59%) and 16 men (67%) will be using more than 50% English; there are 16 women (47%) who said they will be using between 60% and 80% English and 15 men (63%) who said they will be using between 70% and 100% English. There are nine women (26%) and six men

(25%) who will be using around 50% English. There are another five women (15%) and two men (8%) who will be using less than 50% English in the future.

According to AUCE W1, talking about the language she would use in her future job, “if it is a good job, it will be only English or mostly English”. As for LIU W6, she estimated using 80% English in the future, and she added “I hope so”. Among other subjects, NDU W1 and NDU M8 said they would surely use English “more than now”. NDU W8 even said she will “use it always”. Being a civil engineer student, NDU W5 had a little bit different expectations about her future language, she thinks that she will be using less English than Arabic because her future job requires regular visits to the sites where English would not be the appropriate language to communicate with people.

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Chapter 5. Discussion

In the previous chapter, gender has been found to correlate with various sociolinguistic variables. These variables are interwoven in the SMS code-switching of men and women, making it difficult to study the variables separately. Eckert and McConnell-Ginet (2003: 50) believe that

[t]he force of gender categories in society makes it impossible for us to move through our lives in a nongendered way, and impossible not to behave in a way that brings out gendered behavior in others. At the same time, the maintenance of gender categories depends on reinforcement in day-to-day behavior. *Male* and *female* could not persist as structurally important social categories if we did not perform enough gendered and gendering behavior- if distinct groups of people did not continue to act like “women” and like “men”.

This chapter discusses the findings of this research by returning to the hypotheses in order to test their validity. The following sections discuss the results of these six hypotheses, leading to a general conclusion on the findings of this study. Section 5.1 discusses the differences in men’s and women’s code-switching in SMS messages and whether women code-switch more. Section 5.2 discusses the differences in men’s and women’s behavior in intra- as well as inter-generational SMS code-switching. Section 5.3 discusses the differences in men’s and women’s behavior in intra- as well as inter-gender SMS code-switching. Section 5.4 discusses men’s and women’s SMS code-switching distinctions in different social classes. Section 5.5 discusses gender differences in Christian and Muslim subjects’ SMS code-switching messages. Section 5.6 discusses the gender differences in SMS messages that have no code-switching; the results of this hypothesis are implemented in sections three to five. Section 5.7 discusses the results of the salient features found in the SMS messages. Section 5.8 discusses the results of the questionnaire and section 5.9 discusses the results of the interview. Section 5.10 presents a general conclusion on the findings of this study.

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5.1. H1: “Women code-switch more than men in SMS messages.”

The first hypothesis, which is also the main hypothesis in this research, posits that women code-switch more than men in their SMS messages. The results show that the percentage of women’s code-switching is 52% while it is 38% for men. An independent-sample *t*-test was conducted to compare the code-switching of men and women. There is a significant difference in the code-switching: the women code-switch more ($M= 53.90$, $SD= 21.29$) than the men ($M= 39.80$, $SD= 27.60$), with $p= 0.042$. These results suggest that the first hypothesis is valid.

5.1.1. Conclusion on Hypothesis 1

These results are broadly consistent with the notion that there are linguistic differentiations between men and women. Gender-specific research in recent decades has recognized significant gender differences in aspects such as phonetics, morphology, phonology, syntax, semantics, lexicon, pragmatics, discourse, stylistics, semiotics, not to mention the various studies on code-switching; the majority of these studies have tackled oral or conversational data, however. Among other sociolinguists, Labov (1972, 1990), Trudgill (1972, 1974), Lakoff (1973), Maltz and Borker (1982), Milroy (1987) Eckert (1989), Montgomery (1995), Eckert and McConnell-Ginet (1998), Eckert and McConnell-Ginet (2003), Romaine (2000), Wardhaugh (2006), Stockwell (2007), Holmes (2008), Gardner-Chloros (2009) have talked about linguistic distinctions either in the way men and women talk or in the way they code-switch.

In addition, the findings on the first hypothesis concur with other studies that show gendered dissimilarities in aspects of computer-mediated communication. More specifically, the findings are in alignment with the studies that investigate gender differences in code-switching, particularly the percentage of men’s versus women’s code-switching. Whether between Arabic and English or any other combination, and whether in conversational or written code-switching, women tend to code-switch more than men do (see sections 2.1.4.1, 2.1.4.1.1, 2.1.4.1.2, 2.1.2.4, 2.1.4.2, 2.2.1.1, 2.2.3.1 and 2.2.3.2. of our literature review above regarding the aforementioned distinctions within different modes of communication). Just as men and women differ in their face-to-face communications, they also differ in their code-switching behavior in the SMS messages they write.

Wardhaugh (2006: 317) believes that men and women differ in their “norms of behavior”. They do the same things, but they do them in different ways. According to him, “men ‘gossip’ just as much as women do [...]; men’s gossip is just different. Men also “indulge in a kind of phatic small talk that involves insults, challenges and various kinds of negative behavior to do exactly what women do by their use of nurturing, polite, feedback-laden, cooperative talk”. According to Gal (1978: 2), linguistic differences in the speech of men and women “are no longer thought to be characteristic only of ‘exotic’ languages and need no longer be categorical differences in order to be noticed by linguists”. For Stockwell (2007: 19-20), this could be interpreted in terms “of gender as determinant of linguistic usage”. In addition, Romaine (2000: 79) believes that the reason might be that “[w]omen may be using linguistic means as a way to achieve status denied to them through other outlets”, and according to her, this might be due to the fact they “have been denied equality with men”. Referring to the findings in the play of school-age children by Janet Lever (1976), Maltz and Borker (1982: 204) believe we carry these differences with us from our childhood; they state that “by examining these differences in the social organization of play and the accompanying differences in the patterns of social interaction they entail [...], we can learn about the sources of male-female differences in patterns of language use”. In his famous book *Men are from Mars, women are from Venus*, Gray (1992) clarifies that men and women belong to two different planets. “You see the Martian and Venusian languages had the same words, but the way they were used gave different meanings. Their expressions were similar, but they had different connotations or emotional emphasis” (Gray 1992: 60). Ehrlich (2001: 111) believes that

individuals produce themselves (or are produced) as ‘gendered’ by habitually engaging in the social practices of a speech community that symbolically and practically associated with masculinities or femininities or some combination thereof. It is not gender per se, then, that interacts with linguistic practices, but rather the complex set of ‘gendered’ social practices in which individuals participate.

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5.2. H2: “Men and women behave differently in intra-generational and inter-generational SMS code-switching”

The second hypothesis states that men and women behave differently in intra-generational and inter-generational SMS code-switching. In order to test this hypothesis, I explored the relation between men’s and women’s intra-generational and inter-generational code-switching in SMS messages.

5.2.1. Intra-generational and inter-generational code-switching

In this section, I first test the intra- and inter-generational code-switching of both men and women, and then of men and women separately. Intra-generational code-switching messages are those sent to a sibling, a friend, a colleague, a cousin, or any other person of more or less the same age, whereas inter-generational code-switching messages are the ones sent to adults such as parents, grandparents, uncles, aunts, a boss, or a professor at the university.

5.2.1.1. Men’s and women’s intra-generational code-switching versus men’s and women’s inter-generational code-switching

In intra-generational code-switching, the percentage of code-switching is 85% for men and women together, whereas it is only 13% in inter-generational code-switching. Further, the results of the independent *t*-test show that the intra-generational and inter-generational variables differ significantly in the code-switching of men and women. Men and women code-switch significantly more ($M= 82.60$, $SD= 21.25$) in intra-generational code-switching than in inter-generational code-switching ($M= 13.74$, $SD= 17.91$), with $p < 0.001$.

5.2.1.2. Women’s intra-generational code-switching versus women’s inter-generational code-switching

The results show that women code-switch significantly more in intra-generational settings (84%) than in inter-generational settings (12%). Another independent-sample *t*-test was conducted to examine the intra-generational and inter-generational variables of women’s code-switching. Women code-switch significantly more ($M= 83.53$, $SD= 18.90$) in intra-generational code-

switching than they do in inter-generational code-switching ($M= 13.38$, $SD= 18.80$), with $p < 0.001$.

5.2.1.3. Men's intra-generational code-switching versus men's inter-generational code-switching

As for men, the results are almost the same: they code-switch significantly more in intra-generational settings (86%) than in inter-generational settings (14%). An independent-sample t -test was conducted to examine these variables, and it turns out that men code-switch significantly more ($M= 81.25$, $SD= 24.57$) in intra-generational code-switching than inter-generational code-switching ($M= 25.38$, $SD= 17.92$), with $p < 0.001$.

5.2.2. Men's and women's intra-generational code-switching with women versus men's and women's intra-generational code-switching with men

Within intra-generational code-switching, the 58 subjects code-switch with women significantly more (67%) than they do with men (33%). An independent-sample t -test was conducted to examine these variables, and it turns out that men and women code-switch significantly more with women ($M= 57.72$, $SD= 30.60$) than they do with men ($M= 41.76$, $SD= 30.50$), with $p= 0.006$.

5.2.3. Men's and women's inter-generational code-switching with women versus men's and women's inter-generational code-switching with men

Within inter-generational code-switching, both men and women code-switch much more with women (65%) than they do with men (35%). An independent-sample t -test was conducted to examine these variables, and again it shows that men and women code-switch significantly more ($M= 41.97$, $SD= 46.19$) with women in inter-generational code-switching than they do with men in inter-generational code-switching ($M= 16.66$, $SD= 32.68$), with $p= 0.001$.

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5.2.4. Conclusion on Hypothesis 2

In the case of Hypothesis 2, there are significant difference between women and men in all the aspects tested, thus confirming the main hypothesis. Further, the participants behave differently in intra-generational as well as in inter-generational contexts: code-switching has proved to be higher in intra-generational settings. This shows that age is one of the factors that have a direct effect on the process of code-switching. Moreover, within intra-generational as well as inter-generational contexts, men and women code-switch more with women. This is to say that whenever women are the target of these messages, there is always a higher percentage of code-switching.

These findings concur with other studies that show that the audience is one of the major factors that determine the occurrence of code-switching. According to Gardner-Chloros, code-switching “is one of the possible ways of accommodating to the interlocutor’s linguistic preferences”, and it could “be the only possibility open to a speaker where there is a mismatch between their level of competence in the relevant languages and that of their interlocutors” (Gardner-Chloros 2009: 78).

In all of the studies conducted by Chung (2006), Asali (2011), Smedley (2006), Negrón Goldberg (2009), Sharaf Eldin (2014), Salia (2011), Shintawati (2008), Shawcroft (2014), Al-khatib and Sabbah (2008), Kahari (2014) and (Mustafa 2011), the findings are that code-switching can be prompted and shaped by the speaker-addressee relationship. The aforementioned studies deal with oral or conversational as well as written code-switching.

Moreover, section 2.1.2.1 above refers to some of the functions or reasons that might initiate or halt code-switching within social or linguistic frames, and that are broadly consistent with the current hypothesis, particularly the audience or the addressee. According to Smedley (2006: 201), indexing various identities is one of code-switching functions. Saville-Troike (2003: 43) believes that an “appropriate language choice” is probably dependent on participants, among other language-choice determinants. Among the factors that determine code-switching within definite settings, Gardner-Chloros (2009: 42) identifies factors related to the speakers such as “their social networks and relationships”. Once more, the aforementioned functions are based on conversational code-switching studies or address code-switching that takes place within

speakers. However, they have proved applicable here to written code-switching in SMS messages.

Studies have also shown that age is one of the prime sociolinguistic factors that influence code-switching (see sections 2.1.4.3 and 2.1.4.4 of our literature review above).

Milroy and Wei (1995: 155) believe that “extralinguistic variables such as generation, gender, and occupation interact with [a social network perspective of code-switching and language choice] in affecting the bilingual behavior of individual speakers”. Stockwell (2007: 3) believes that “the social variable is the factor that determines a variation in language”; and according to Stockwell, gender and age are among “possible social factors”.

The results of this hypothesis are also of direct practical relevance to the factor of formality versus informality as well as in-group versus out-group interactions. In turn, these aspects may be grouped as ‘solidarity’, which has been also proven to be one of the factors that condition the presence or the absence of code-switching (see sections 2.1.4.2, 2.1.4.1.4, 2.2.1.1.2 and 2.2.3.2 of our literature review above). For example, Gardner-Chloros (2009: 15) believes that “people code-switch more and more [...] when they are at ease, in *informal* situations”. Hoffmann (1991: 113) confirms this by saying that code-switching is usually avoided in formal situations and that “formality influence[s] the language behavior in such a way as to concentrate the mind of the speaker on trying to approximate or keep to monolingual standards”. One might assume that intra-generational exchanges tend to be more informal. Among the social dimensions proposed by Holmes (2008: 9-10) in accounting for the varieties of language used, she offered the solidarity-social distance scale that “is useful in emphasising that how well we know someone is a relevant factor in linguistic choice”. At one side of this scale there are “Intimate” and “High solidarity” while “Distant” and “Low solidarity” lay at the other side. “In a formal transaction such as one with the bank manager in his office, or at a ritual service in church, the language used will be influenced by the formality of the setting. For a friendly chat, people usually use colloquial language” (Holmes 2008: 10).

This could be also analyzed in the frame of the Markedness Model proposed by Myers-Scotton (1995) where she talks about the ‘unmarked’ choice as the ‘safer’ and the more appropriate in terms of social interaction. She believes that speakers “have a sense of markedness regarding available linguistic codes for any interaction, but choose their codes based on the persona and/or relation with others” (Myers-Scotton 1995: 75). Moreover, among the conditions

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that must be met for unmarked code-switching, Myers-Scotton (1995: 119) says “the interaction has to be of a type in which speakers wish to symbolize the dual memberships that such CS calls up. Typically, such interactions will be informal and involve only in-group members. Furthermore, these findings are also in agreement with the concept of ‘they’ code that is associated with more objective stance unlike the ‘we’ code that is more associated with intimacy, and which are proposed by Gumperz (1982) as a function to distinguish between in-group and out-group frameworks. Various studies have shown that people in general and the young people in particular, have different speech approaches in “we” code and “they” code contexts in a way that either triggers code-switching or inhibits it; a concept which is more or less the same as that of in-group and out-group. For Gumperz (1982: 72-3) code-switching is but an act of “solidarity with the community” where informal code-switching used among “cohesive minority groups” is the “we” code and that spoken as the majority language at work or with out-group members is the “they” code. (See sections 2.1.2.1, 2.1.2.3, 2.1.4.1.1, 2.1.4.4 and 2.2.2.1 of our literature review above.)

Further, our finding could be interpreted in terms of situational code-switching that is among the external factors that trigger code-switching. According to Milroy and Milroy (1991: 119): 119) “all speakers vary their language very extensively according to situation; there are [...] no single-style speakers”. Montgomery (1995: 125), for example, recognizes that “language varies not just according to who we are but also according to the situations we find ourselves in” (see sections 2.1.2.1, 2.1.2.2, 2.1.2.1.4, 2.2.1.1 and 2.2.2.1 of our literature review above).

5.3. H3: “Men and women behave differently in intra-gender as well as in inter-gender SMS code-switching”

The third hypothesis states that men and women behave differently in intra-gender as well as in inter-gender SMS code-switching. In order to test this hypothesis, I formulated ten correlations that explore the relation between men’s and women’s intra-gender and inter-gender code-switching in SMS messages. The following two sections, 5.3.1 and 5.3.2, are further divided into subsections that discuss all of these correlations. The first section deals with the intra- and inter-gender code-switching of men and women within intra-generational code-switching, while the second traces the differences in intra- and inter-gender code-switching within inter-generational

code-switching. In the following subsections I address each of these relations and then present the global results for this hypothesis.

5.3.1. Intra- and inter-gender code-switching within intra-generational code-switching

In this section, I test the intra-gender and inter-gender code-switching of both men and women within the intra-generational code-switching messages.

5.3.1.1. Women's intra-generational code-switching versus men's intra-generational code-switching

The result of women's intra-generational code-switching is 84% and it is 86% for men, which means that men's and women's code-switching in intra-generational situations is almost the same. An independent-sample *t*-test compared women's intra-generational code-switching ($M=83.53$, $SD=18.90$) and men's intra-generational code-switching ($M=81.25$, $SD=24.57$) but showed no significant difference ($p=0.691$). This confirms that men's and women's code-switching does not differ in intra-generational code-switching in general. Moreover, this is consistent with the abovementioned finding (5.2.1.2 and 5.2.1.3 above) that both men and women code-switch more in intra-generational code-switching than they do in inter-generational settings.

5.3.1.2. Women's intra-generational code-switching with women versus men's intra-generational code-switching with women

The results show that women code-switch with women significantly more (76%) than men code-switch with women in intra-generational code-switching (49%). An independent-sample *t*-test shows that women code-switch significantly more with women ($M=67.74$, $SD=27.42$) than men code-switch with women in intra-generational code-switching ($M=43.54$, $SD=29.72$), with $p=0.002$.

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5.3.1.3. Women's intra-generational code-switching with men versus men's intra-generational code-switching with men

The results here show that women code-switch less with men (24%) than men code-switch with men (51%) in intra-generational code-switching. An independent-sample *t*-test shows that women code-switch less with men ($M= 31.38$, $SD= 26.90$) than men code-switch with men in intra-generational code-switching ($M= 56.46$, $SD= 29.72$), with $p= 0.002$.

We thus see that women code-switch with women more than men code-switch with women, and vice versa: women code-switch less with men than they do with women.

5.3.1.4. Women's intra-generational code-switching with women versus women's intra-generational code-switching with men

The results show that women code-switch more with women (67%) than they do with men (24%). An independent-sample *t*-test shows that women code-switch significantly more with women ($M= 67.74$, $SD= 27.42$) than with men in intra-generational code-switching ($M= 31.38$, $SD= 26.90$), with $p< 0.001$.

5.3.1.5. Men's intra-generational code-switching with women versus men's intra-generational code-switching with men

The results here show that men code-switch almost the same with women (49%) as with men (51%). I compared the degree of men's inter-gender code-switching with women ($M= 43.54$, $SD= 29.72$), and their intra-gender code-switching with men ($M= 56.46$, $SD= 29.72$), within intra-generational code-switching, but I found no significant difference ($p= 0.139$). This confirms the aforementioned finding that there is almost no difference between men's code-switching with men or with women in intra-generational code-switching.

5.3.2. Intra- and inter-gender code-switching within inter-generational code-switch

In this section I test the intra-gender and inter-gender code-switching of both men and women, within the inter-generational code-switching messages.

5.3.2.1. Women's inter-generational code-switching versus men's inter-generational code-switching

The result of women's inter-generational code-switching is 12% and it is 14% for men, which means that both men's and women's code-switching in inter-generational code-switching is almost the same. An independent-sample *t*-test compared women's inter-generational code-switching ($M= 13.38$, $SD= 18.18$) and men's inter-generational code-switching ($M= 14.25$, $SD= 17.92$) but showed no significant difference ($p= 0.858$). This further confirms that men's and women's code-switching does not differ in inter-generational situations. Moreover, this is also in consistent with the finding (in 5.2.1.2 and 5.2.1.3 above) that men and women code-switch less in inter-generational code-switching than they do in intra-generational settings.

5.3.2.2. Women's inter-generational code-switching with women versus men's inter-generational code-switching with women

The results here show that women code-switch with women (68%) almost the same as men code-switch with women (73%). I compared the degree of women's intra-gender code-switching, with women ($M= 45.91$, $SD= 44.98$) and men's inter-gender code-switching with women ($M= 36.38$, $SD= 48.26$), but I found no significant difference ($p= 0.444$). This further confirms that, in inter-generational settings, there is almost no difference in the code-switching of men or women with women; both men and women code-switch more with women.

5.3.2.3. Women's inter-generational code-switching with men versus men's inter-generational code-switching with men

The results show that women code-switch with men (32%) almost the same as men code-switch with women (27%) in inter-generational settings. I compared women's inter-gender code-switching with men ($M= 12.91$, $SD= 24.97$), and men's intra-gender code-switching with men ($M= 21.96$, $SD= 41.26$), but I found no significant difference ($p= 0.345$). This further confirms that there is almost no difference in the code-switching of men or women with men; both men and women code-switch less with men.

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5.3.2.4. Women's inter-generational code-switching with women versus women's inter-generational code-switching with men

The results show that women code-switch with women (68%) significantly more than they code-switch with men (32%) in inter-generational settings. The *t*-test shows that, in inter-generational settings, women code-switch significantly more with women ($M= 45.91$, $SD= 44.98$) than with men ($M= 12.91$, $SD= 24.97$), with $p < 0.001$.

5.3.2.5. Men's inter-generational code-switching with women versus men's inter-generational code-switching with men

The numbers for inter-generational settings suggest that men code-switch with women (73%) more than they do with as men (27%). However, I compared the degree of men's inter-gender code-switching (with women) ($M= 36.38$, $SD= 48.26$) with men's intra-gender code-switching (with men) ($M= 21.96$, $SD= 41.26$), and I found no significant difference ($p= 0.272$).

In summary, in intra-generational code-switching, women code-switch more with women (76%) and less with men (24%), whereas men code-switch almost to the same degree with women (49%) as with men (51%). However, within inter-generational code-switching, although women still code-switch considerably more with women (68%) than they do with men (32%), men code-switch significantly more with women (73%) than they do with men (27%). In other words, differences still rise between men's and women's code-switching. In terms of intra-gender intra-generational settings, women code-switch more with women (76%) whereas men code-switch almost the same with men (51%). However, within inter-generational settings, women still code-switch more with women (68%), while men code-switch less with men (27%). Accordingly, in inter-gender intra-generational settings, women code-switch with men less (24%), whereas men code-switch almost the same with women (49%). On the other hand, in inter-generational code- contexts, women code-switch considerably less with men (32%), while men code-switch significantly more with women (73%).

Once more, these results confirm Hypotheses 1 and 2: whenever women are targeted, the percentage of code-switching is higher. This conclusion is further confirmed when we calculate the results of men's and women's code-switching in intra- and inter-generational settings. The results can be summarized as follows: all men and women code-switch more with women (67%) than they do with men (33%); women code-switch more with women (75%) than they do with

men (25%); and men as well code-switch a little more with women (53%) than they do with men (47%).

5.3.3. Conclusion on Hypothesis 3

In the case of Hypothesis 3, all of the tested relations confirm, to various degrees, the main hypothesis that men and women behave differently in intra-gender as well as inter-gender contexts. The third hypothesis thus holds. According to the results and the data collected, the participants behave differently in intra-gender as well as in inter-gender contexts both in intra- and inter-generational settings.

These results are broadly consistent with what sociolinguists say about the interaction of men and women in different frameworks. Wardhaugh (2006) believes that men and women behave differently in same-gender and cross-gender communications. When men talk to men, “the content categories of such talk [focus] on competition and teasing, sports, aggression, and doing things” whereas when women talk to women, “the equivalent categories” would be “the self, feelings, affiliation with others, home, and family”. However, in inter-gender contexts, men would speak “less aggressively and competitively” and the women would lessen “their amount of talk about home and family” (Wardhaugh 2006: 324-5).

Teutsch-Dwyer (2001: 177) believes that “[i]t has become known that conventional sex-role theory is not able to explain the use by both sexes of linguistic forms traditionally assigned to either men [...] or women”. With regard to various studies on gender and language, Eckert and McConnell-Ginet (2003: 118) have noticed that both men and women behave differently in same-sex and mixed-sex groups; in one of those studies and within mixed-sex groups, the men have been found to contribute more and the women less than they previously did in same-sex groups. She believes that “both male and female participants modify their behavior in the direction of gender-appropriate participation rates when they move into mixed-sex interactions” (Eckert and McConnell-Ginet 2003: 118).

This is totally consistent with the findings of the studies on language in general and code-switching in particular, both oral and written. Regarding the written form of code-switching, the findings of this hypothesis concur with studies in different computer-mediated communication

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aspects and particularly on SMS (see sections 2.1.4.1.1, 2.1.4.2, 2.2.3.1 and 2.2.3.2 of our literature review above.)

Similarly, these findings jibe with those found by (Freed and Greenwood 1996. In reference to their study, Ehrlich (2001: 111) says that they “found that women *and* men involved in same-sex dyadic conversations with friends, displayed strikingly similar linguistic behavior – behavior typically associated with the so-called cooperative speech style of women”. This latter style could be understood in terms of the results of this current study where women code-switch more than men in general, and thus this act of code-switching is attributed to women more than it is to men. As well, this is also in harmony with the results of this study where men have been found to code-switch more with women who, in turn, have been found to code-switch less with men. Upon summarizing some of the research on “talk in same-sex groups, Coates (2013: 143) concludes by saying that “speakers ‘do’ gender rather than just ‘being’ men or women [...] In their talk, men and women can be seen to align themselves with dominant norms of masculinity and femininity as they ‘do’ gender with one another [...] speakers have a choice of a range of masculinities and femininities”. And as a brief concluding remarks, I would refer to Holmes (2008: 380), who believes that

The differences between women and men in ways of interacting may be the result of different socialisation and acculturation patterns. If we learn the ways of talking mainly in single sex peer groups, then the patterns we learn are likely to be sex-specific. And the kind of miscommunication which undoubtedly occurs between women and men will be attributable to the different expectations each sex has of the function of the interaction, and the ways it is appropriately conducted.

5.3.4. Percentages of various languages in code-switching messages

The results shown in Tables 6, 7 and 8 above show that the percentages of Arabic words are almost the same in the messages of men and women: 63% and 61% respectively. However, there is a difference in the percentages of English, French, and other languages. Men have more English words (38%) than women (33%), but women have slightly more words in French and other languages (3%) than men (1%).

5.3.5. Frequency of switches in code-switching messages

The frequency of switches in the code-switching messages was calculated by dividing the total number of words in code-switching messages by the inter-language switches made by subjects (see Table 9 above). The results show that there is no difference in the frequency of switches of men and women, since the frequency of words per switch is 4.6 for both groups.

5.3.6. Languages of messages that have no code-switching

The percentages of languages used in the messages without code-switching are shown in Tables 10, 11, and 12 above and are part of the data for Hypothesis 6. The results show that although women write more messages in Arabic (68%) than men do (60%), men write more messages in Arabic *script* (8%) than women do (4%). Moreover, whereas men write more messages in English (29%) than women do (24%), women write more messages in French and other languages (4%) than men do (3%).

5.4. H4: “There are gender differences in code-switching among different social classes.”

The fourth hypothesis states that there are gender differences in the code-switching among different social classes. In order to test this hypothesis, I explored the relations between men’s and women’s SMS code-switching in different social classes. Each of the following four sections is further divided into three subsections that discuss all of these relations. The first section looks at the code-switching of both men and women in mixed social classes. The second and the third sections handle intra-gender code-switching, whereas the fourth traces inter-gender code-switching. The second section looks at men’s intra-gender code-switching in different classes. The third deals with women’s intra-gender code-switching in different classes. The fourth deals with the inter-gender code-switching of men and women in different classes. I then present the global results for this hypothesis.

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5.4.1. Men's and women's code-switching in different social classes

The code-switching of men's and women's messages in the various social classes is summarized in Table 13. In the upper-lower class, the percentage of all men's and women's code-switching is 37% (45% for women and 15% for men). In the lower-middle class, the percentage of all men's and women's code-switching is 53% (55% for women and 50% for men). As for the upper-middle class, the percentage of all men's and women's code-switching is 38% (48% for women and 15% for men).

5.4.1.1. All upper-lower class men and women versus all lower-middle class men and women

The results suggest that lower-middle class men and women code-switch more (53%) than upper-lower class men and women (37%), although the *t*-test shows no significant difference ($M= 39.75$, $SD= 27.36$, $M= 56.45$, $SD= 25.03$, $p= 0.110$).

5.4.1.2. All lower-middle class men and women versus all upper-middle class men and women

The results here show that lower-middle class men and women code-switch significantly more (53%) than upper-middle class men and women (38%). The independent-sample *t*-test shows that lower-middle class men and women ($M= 56.45$, $SD= 25.03$) code-switch significantly more than upper-middle class men and women ($M= 40.62$, $SD= 21.39$), with $p= 0.023$.

5.4.1.3. All upper-lower class men and women versus all upper-middle class men and women

The results show that upper-lower class men and women code-switch (37%) almost the same as upper-middle class men and women code-switch (38%). I compared the degree of code-switching by upper-lower class men and women ($M= 39.75$, $SD= 27.36$) and by upper-middle class men and women ($M= 40.62$, $SD= 21.39$), but I found no significant difference ($p= 0.928$). This further confirms that there is little difference in the code-switching between both groups.

5.4.2. Men's intra-gender code-switching in different classes

In this section I test the code-switching of men's intra-gender messages in different social classes.

5.4.2.1. All upper-lower class men versus all lower-middle class men

The numbers suggest that lower-middle class men code-switch significantly more (50%) than upper-lower class men (15%), however the *t*-test indicates no significant difference ($M= 17.00$, $SD= 9.90$; $M= 52.08$, $SD= 32.58$; $p= 0.168$).

5.4.2.2. All lower-middle class men versus all upper-middle class men

Lower-middle class men code-switch more (50%) than upper-middle class men (28%). However, the *t*-test once again shows no significant difference ($M= 52.08$, $SD= 32.58$; $M= 31.70$, $SD= 17.68$; $p= 0.079$).

5.4.2.3. All upper-lower class men versus all upper-middle classmen

Upper-middle class men code-switch more (28%) than upper-lower class men (15%), although the *t*-test once again indicates no significant difference ($M= 17.00$, $SD= 9.90$; $M= 31.70$, $SD= 17.68$; $p= 0.292$).

5.4.3. Women's intra-gender code-switching in different classes

In this section I test the code-switching of women's intra-gender messages in different social classes.

5.4.3.1. All upper-lower class women versus all lower-middle class women

Although lower-middle class women code-switch slightly more (55%) than upper-lower class women (45%), the *t*-test shows no significant difference ($M= 47.33$, $SD= 27.42$; $M= 59.53$, $SD= 18.50$; $p= 0.234$).

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5.4.3.2. All lower-middle class women versus all upper-middle class women

Lower-middle class women code-switch a little more (55%) than upper-middle class women (48%) but not significantly so ($M= 59.53$, $SD= 18.50$; $M= 48.73$, $SD= 21.60$; $p= 0.173$).

5.4.3.3. All upper-lower class women versus all upper-middle class women

Upper-middle class women code-switch more or less the same as (48%) upper-lower class women (45%) ($M= 47.33$, $SD= 27.42$; $M= 48.73$, $SD= 21.60$; $p= 0.861$). This further confirms that there is no difference in the code-switching of these groups.

5.4.4. Men's and women's inter-gender code-switching in different classes

In this section I test the code-switching of men's and women's inter-gender messages in different social classes.

5.4.4.1. All upper-lower class women versus all upper-lower class men

Upper-lower class women code-switch more (45%) than upper-lower class men (15%) and this difference is significant ($M= 47.33$, $SD= 27.42$; $M= 17.00$, $SD= 9.90$; $p= 0.0193$).

5.4.4.2. All lower-middle class women versus all lower-middle class men

Lower-middle class women code-switch more or less the same (55%) as lower-middle class men (50%). The difference is not significant ($M= 59.53$, $SD= 18.50$; $M= 52.08$, $SD= 32.58$; $p= 0.485$).

5.4.4.3. All upper-middle class women versus all upper-middle class men

The numbers suggest that upper-middle class women code-switch significantly more (48%) than upper-middle class men (28%), however the t -test indicates no significant difference ($M= 48.73$, $SD= 21.96$; $M= 31.70$, $SD= 17.68$; $p= 0.067$).

5.4.5. Conclusion on Hypothesis 4

In the case of Hypothesis 4, the independent-sample t -tests indicated non-significance except for the cases of lower-middle class men and women code-switching significantly more than upper-

middle class men and women (5.4.1.2) and upper-lower class women code-switching more than upper-lower class men (5.4.4.1). This second relation nevertheless speaks more to the differences between men and women than to simple differences between classes – it locates the class in which the gender difference seems greatest (as we will see in Labov below).

In general, though, the interactions within different social classes show distinctions between some classes and similarities between others. There is certainly no consistency in the code-switching of these students in terms of social class. Further, the data entered into the *t*-tests in some cases comes from groups of between six and ten subjects, some of whom have remarkably different behaviors. The high standard deviations thus explain why the means are often very different but the *p*-value nevertheless indicates non-significance.

The findings of this hypothesis are in accord with former studies that confirm gender linguistic differences within social classes. In several investigations, including the famous department-store survey conducted in New York, Labov (1972: 113-7) indicates that in certain linguistic patterns, “[t]he lower middle class, in particular, shows an extremely rapid increase [in the frequency of postvocalic *r*] surpassing the upper-middle class level in the two most formal styles” (Labov 1972: 115). For Labov, this “hypercorrection behavior of the lower middle class is seen as a synchronic indicator of linguistic change in progress” (Labov 1972: 115). These findings are highly consistent with the results of this study, where the lower-middle-class students have been found to code-switch more (53%) than the upper-lower class students (37%) and the upper-middle-class students (38%). Upon replicating the results, Labov (1972: 117) found that “in each age level, the lower middle shows the greatest tendency towards the introduction of *r*- pronunciation, and in the most formal styles, goes far beyond the upper-middle class level in this respect”. In another conclusion that is in harmony with the aforementioned findings of this study, Labov (1972: 244) asserts that among “the most solidly established phenomena of sociolinguistic behavior is that the second-highest status group shows the most extreme style shifting, going beyond that of the highest-status group”. According to Labov, there is evidence “that lower-middle-class speakers have the greatest tendency towards linguistic insecurity, and therefore tend to adopt, even in middle age, the prestige forms used by the youngest members of the highest-ranking class” (Labov 1972: 117).

In terms of gender and social class, Labov (1972: 243-4) hints at variant linguistic patterns. Within careful speech, women tend to use “fewer stigmatized forms than men” [...]

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“and are more sensitive than men to the prestige pattern”. Labov refers to various studies where this observation has been proven true “innumerable times”, adding that this “pattern is particularly marked in lower-middle-class women, who show the most extreme form of this behavior” (Labov 1972: 243). This is also in harmony with our study here, where lower-middle class women report the highest percentage of code-switching in their messages (55%), whether in terms of intra- or inter-gender contexts or within different social classes, and upper-lower class women code-switch significantly more than the men in the same class.

Accordingly, the results of Eckert's (1989) study on the “hegemonous social categories”, the “Jocks” and the “Burnouts” are highly consistent with those of the current study. Whereas the first group members represent middle-class culture and “participate in school activities and embrace the school as the locus of their social activities and identities”, the second group members represent “working-class culture”, and “do not accept the school as the locus of their operations [...] and orient themselves to the local, and the neighboring urban, area” (Eckert 1989: 258). Eckert believes that although in “each category, girls and boys follow very different routes to achieve power and status”, differences in terms of social class are more prominent among girls than they are among boys (Eckert 1989: 259). In order to gain a “whole person” image, the female “Jocks” as well as the female “Burnouts” have to develop this image; however, they approach the matter in a different, rather an opposite way (Eckert 1989: 259). These findings clearly corroborate those of this study in terms of intra-gender differences among upper-middle class and lower-middle class students. Within women, the percentage of upper-lower class students is 45% whereas it is 55% for lower-middle class students. Regarding men, it is only 15% for upper-lower class students but it is 50% among lower-middle class students. Furthermore, the findings of this study are in accordance with other studies in sections 2.1.4.5 and 2.1.4.6 in our literature review above.

Once again, almost all of the reference studies are on conversational settings. I have not come across any study that deals with the correlation between written code-switching and social class, neither within CMC nor SMS messages. Our study might thus be extending Labov's finding into new fields.

According to Le Page (1968: 192), who believes that the language is a mirror of the individual's personal identity, “[t]he individual creates his system of verbal behavior so as to

resemble those common to the group or groups with which he wishes from time to time to be identified". And as a concluding remark, I would like to quote Goldstein (2001: 82):

One way people create and maintain particular social identity and reality in interaction is through the language or language variety they choose to use with others. An interactionist perspective on language choice argues that people associate particular languages or language varieties with membership in particular social groups and with cultural values and practices associated with being a member of those social groups. Put a little differently, interactionists believe that particular languages or language varieties symbolize particular social identities. Underlying interactionist descriptions of individual language choice is a belief that stresses the fluidity of individual behavior and the range of choice open to people in their use of language in their as a means of symbolizing various identities.

5.4.6. Percentages of languages in code-switching messages

In this section I discuss the percentages of Arabic, English, French and other languages in the code-switching messages by upper-lower class, lower-middle class and upper-middle- class men and women. The results are based on Tables 17, 18, 19, 20, 21 and 22. The results show that the percentage differs both in terms of gender and in terms of social class.

The percentages of languages differ between men and women in different social classes. Regarding women, the percentage of Arabic words is 65% for the upper-lower class, 68% for the lower-middle class and 50% for the upper-middle class. The percentages for English are 35% for the upper-lower class, 27% for the lower-middle class and 46% for the upper-middle class. With respect to French and other languages, the percentage is 0% for the upper-lower class, 5% for the lower-middle class and 4% for the upper-middle class.

On the other hand, there are no such differences among men within social classes. The percentages of Arabic and English words are more or less the same. As for Arabic words, it is 61%, 62% and 58% for the upper-lower class, the lower-middle class and the upper-middle class respectively. The same applies to the percentage of English words: 39% for the upper-lower class and the upper-middle class and 38% for the lower-middle class. The only slight difference

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is the percentage of French words used: 0% for both the upper-lower class and the lower-middle class, and 3% for the upper-middle class.

Within the upper-lower class and lower-middle classes the percentages of Arabic, English words are more or less the same. However, there are no words from French or other languages in the code-switching messages of upper-lower class students. As for the upper-middle class, we see that the percentage of Arabic words is significantly lower than those in the upper-lower class and lower-middle class code-switching messages, and consequently the percentage of English words is higher. The percentage of French words is higher in the messages of upper-middle students than in the messages of lower-middle class students.

What is worth mentioning is that the distinctions in the percentages of languages used in different social classes are more noticeable among women than they are among men. Whereas the percentages of Arabic and English languages used in the messages of upper-lower class and lower-middle class women do not differ significantly, they do between the latter social classes and those of the upper-middle class women. The results show that in the code-switching messages of women, the higher the social class is, the lower the percentage of Arabic and the higher the percentage of English and French are. One more thing, among men, French is only used by upper-middle class students.

5.4.7. Frequency of switches in code-switching messages

The frequency of switches in the code-switching messages by upper-lower class, lower-middle class and upper-middle class men and women (Tables 23, 24 and 25) indicate somehow significant differences. In regards to social class, it is 4.3 for the upper-lower class, 5.0 for the lower-middle class and 3.9 for the upper-lower class. This suggests that although lower-middle class men and women code-switch more than men and women in other social classes, their frequency of switches is lower than those in the other classes. In terms of gender, in the upper-lower and upper-middle classes, the frequency for women is higher than for men although it is significantly higher in upper-middle class, while the reverse holds for the lower-middle class where the frequency is the lowest for both men and women. And whereas women's code-switching in all classes does not differ significantly, their frequency of switches does. It is 4.3 for upper-lower class, 5.1 for lower-middle class, and 3.7 for upper-middle class. On the other hand,

we do not see such significant differences among men; the frequency of switches is 4.5 for upper-lower class, 5.0 for lower-middle class and 4.7 for upper-middle class.

5.4.8. Languages in messages that have no code-switching

The percentages of languages used in the messages without code-switching of the various social classes are given in Tables 26, 27, 28, 29, 30, and 32.

Similarities as well as differences have been found between men and women in different social classes, both in terms of intra-gender or inter-gender contexts and within mixed social classes or the same social class. These interactions are complicated and mingled within genders as well as within classes.

Within the same social class, all the percentages of languages differ in inter-gender settings. On the other hand, in different mixed social classes or intra-gender contexts there are more differences than similarities. Among all the various relations within different social classes and languages, there are only three cases where there are intra-gender similarities. First, women in the lower-middle class and those of the upper-middle class have the same percentage of French messages (2%). Second, men in all social classes have more or less the same percentages of Romanized Arabic messages (61%, 59% and 61%). And third, men in the lower-middle class and the upper-middle class have almost the same percentage of Arabic-script messages (7% and 6%).

In general, those who belong to the upper-lower class have the highest percentages of Arabic messages written in Arabic script (18%), whereas the frequency is only 4% and 3.5% in the other two classes. Surprisingly, lower-upper class women, who report the highest percentage of code-switching, have the lowest percentage of English messages within intra- and inter-gender correlations among all of the social classes: only 7%, whereas as it is 25% for upper-lower-class women and 51% for upper-middle-class women, 18% for upper-lower-class men, 34% for lower-middle-class men and 28% for upper-middle-class men. Those who belong to the upper-lower class do not have any French messages, whereas French is highest among upper-middle-class men (5%). Also, upper-middle-class women do not have messages written in Arabic script, while the percentage is 17% among upper-lower class women and 3% among lower-middle class women.

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It is difficult to read much into these various similarities and differences, to the extent that class may not be the most useful category of analysis in some cases. Milroy (1987: 13) portrays social class as “a broad, large-scale category. Although it is apparently simple idea and has undoubtedly enables linguists to shed considerable light on the social functions of language in cities, it is a very difficult notion to pin down unless constantly used at a high level of abstraction”. Likewise, Stockwell (2007: 13) believes that social class is among “the most significant and also most complex determinants of linguistic variation”, and that it “is not an easy concept to define precisely or measure accurately” (Stockwell 2007: 13).

5.5. H5: “There are gender differences in code-switching between Christians and Muslims.”

The fifth hypothesis states that there are gender differences between the code-switching of Christians and Muslims. In order to test this hypothesis, I explored the relation between men’s and women’s SMS code-switching in the two religions. The following sections discuss all of these relations.

5.5.1. Code-switching in different religions

In this section I test the code-switching of men’s and women’s messages within different religions; the results are in Table 32. For Christians, the percentage of all men’s and women’s code-switching is 43% (55% for women and 24% for men). For Muslims, the percentage is 47% (51% for women and 41% for men). In the following subsections I discuss the various relations involved.

5.5.1.1. All Christian men and women versus all Muslim men and women

Muslim students code-switch slightly more (47%) than Christian students (43%) but this difference is not significant ($M= 43.40$, $SD= 43.40$; $M= 50.16$, $SD= 25.20$; $p= 0.372$). This indicates that there is little difference in the code-switching of both groups.

5.5.1.2. All Christian men versus all Muslim men

Although Muslim men code-switch more (41%) than Christian men (24%), this difference is not significant ($M= 30.17$, $SD= 21.94$, $M= 44.17$, $SD= 29.49$; $p= 0.300$).

5.5.1.3. All Christian women versus all Muslim women

Christian women code-switch only slightly more (55%) than Muslim women (51%), and this difference is not significant ($M= 52.22$, $SD= 23.29$; $M= 54.48$, $SD= 21.96$; $p= 0.791$).

5.5.2. Code-switching within the same religion

In this section I test the code-switching of men's and women's code-switching messages within the same religion (see Tables 33 and 34).

5.5.2.1. All Christian men versus all Christian women

Christian women code-switch more (55%) than Christian men (24%) but the t -test indicates that this difference is not significant ($M= 52.22$, $SD= 23.29$; $M= 30.17$, $SD= 21.94$; $p= 0.089$).

5.5.2.2. All Muslim men versus all Muslim women

Muslim women code-switch more (51%) than Muslim men (41%), but this difference is once again found to be non-significant ($M= 54.48$, $SD= 21.96$; $M= 44.17$, $SD= 29.49$; $p= 0.189$).

5.5.3. Conclusion on Hypothesis 5

In the case of this hypothesis, the independent-sample t -tests conducted have turned out to indicate non-significant differences, even though there are clear differences between the two means in some cases. I expected to find little difference between the two religions overall, and between women in the two religions in particular, and this is indeed what is indicated by the percentages (5.5.1.1 and 5.5.1.3 above). On the other hand, Muslim men may code-switch more (42%) than Christian men (24%), and in both religions women have been found to code-switch much more than men, although the sample groups seem too small for these differences to be

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significant. Once more, we can nevertheless say that wherever women are involved, there is more code-switching.

Montgomery (1995: 105) spotlights the relation between linguistic choices and the speaker's group affiliation: "different varieties are 'owned' by different groups, and speech will vary according to the primary group affiliation of the speaker around crucial reference points such as class, region, ethnicity, gender and also age." Moreover, Montgomery (1995: 179) believes that any "subculture defines itself partly on the basis of internal norms but also by reference to what separates it from other groups [...] 'speaking the same language' is a crucial badge of group membership and subcultural identities".

As far as I know, there has been very little research on the relation between religion and language in general, let alone on code-switching. The findings here are nevertheless in alignment with the studies in sections 2.1.4.7 and 2.1.4.8 that show a connection between language choice and certain religious attitudes, factors or topics. In the course of this study it has been found that code-switching is triggered by religious elements that can be used as an indicator of identity. For example, whereas terms such as "Salam" are present in Muslim students' messages, "Ya, Adra" is found in Christian students' messages. In both cases, however, what we are counting here is an instance of code-switching, and such instances seem to be roughly as frequent in both religions. This might suggest that, although the words are different, code-switching is indeed operating as something like the language of Lebanon. According to Jule (2005),

Religions share the ideas of icons, symbols, sacrifice, behaviour, attitudes and quest as part of a meaningful life. However how we each explore and how we each relate to religion is infinitely individual, shifting from various places and times, and most times significantly embedded in culture and in communities. (Jule 2005: 5)

5.5.4. Languages in code-switching messages

The percentages of Arabic, English, French and other languages in code-switching messages by Christian and Muslim men and women are given in Tables 35, 36, 37, 38, 39 and 40. They show that the percentages for men and women differ considerably in terms of both gender and religion.

With regard to religion, Christians have more English messages (43%) than Muslims (33%), whereas Muslims have more Arabic messages (66%) than Christians (45%). Christians have 5% French messages and 7% Armenian messages, whereas Muslims only have 1% French messages.

In terms of gender, Christian women have the highest percentage of English messages (44%) within intra- and inter-gender contexts, whereas Muslim women have the lowest percentage (30%).

Christian and Muslim men have the same percentage of Arabic messages (61%) but Christian men have more English messages (39%) than Muslim men (35%). Moreover, Christian men have French messages (4%) whereas Muslim men do not have any. As for women, Muslim women have the highest percentage of Arabic messages (69%) whereas Christian women have the lowest (42%) of all.

In sum, the percentages of words in these languages differ significantly in terms of both gender and religion.

5.5.5. Frequency of switches in code-switching messages

Tables 41 and 42 give the number of words per switch. For Christians, the frequency is 3.7 for women, 4.7 for men and 3.8 for all men and women. As for Muslims, it is 5.0 for women, 4.7 for men, and 4.9 for all men and women. In this case, the clearest difference is between Christians (3.8) and Muslims (4.9).

5.5.6. Languages in messages that have no code-switching

The percentages of languages used in the messages without code-switching are given in Tables 43, 44, 45, 46, 47, and 48.

The results show Christians have many more English messages (45%) than Muslims (21%); they have more French messages (8%) than Muslims (1%); they have more messages written in other languages (4%) than Muslims (1%); they have much fewer Arabic messages (43%) than Muslims (71%). Surprisingly, no Christian men or women have any Arabic script-messages, whereas it is 7% among Muslims.

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In terms of gender, Christian women have the lowest percentage of Arabic messages (25%), whereas it is 78% for Muslim women, 71% for Muslim men and 61% for Christian men. Christian women correspondingly have the highest percentage of English messages (62%), whereas it is only 10% and 15% among Muslim men and women and 29% among Christian men. The percentage of French messages is the highest among Christian men (10%). Although it is 4% among Christian women, that group has 9% of messages written in other languages. The percentage of French messages among Muslim women is only 1% and it is also 1% for messages written in other languages, whereas Muslim men have no messages in French or other languages.

5.6. H6: “Men and women behave differently in SMS messages that have no code-switching.”

The last hypothesis states that men and women behave differently in SMS messages that have no code-switching. The results for this hypothesis can be found in sections 5.3.6, 5.4.8 and 5.5.6 above.

We have seen that there are differences between men and women in the percentages of languages used in the messages without code-switching (5.3.6). There are similarities as well as differences between men and women regarding intra-gender and inter-gender contexts as well as within different social classes (5.4.8). And there are significant differences between Christian and Muslim men and women (5.5.6). Once more, the distinctions have been found in terms of gender, in both intra-gender and inter-gender contexts.

In general, women write more messages in Arabic (68%) than men do (60%), but men write twice the number of messages in Arabic *script* (8%) that women write (4%). And whereas men have more messages in English (29%) than women (24%), women write more messages in French and other languages (4%) than men do (3%).

Differences are also present within the same social class as well as within different social classes. As for the upper-lower class, men write more messages in Arabic (82%) than women do (70%); men also write more messages in Arabic *script* (21%) than women (17%). On the other hand, women write more messages in English (25%) than men do (18%). In regards to lower-middle class, women write more messages in Arabic (88%) than men do (66%), but men write more messages in Arabic *script* (7%) than women do (3%). Surprisingly, only 7% of women's

messages are written in English whereas the percentage is 34% for men. On the other hand, 5% of women's messages are written in French or other languages but it is 0% for men. As for upper-middle class, there are significant differences between the two genders. The percentage of Arabic messages is 67% for men and 47% for men; men also have 6% of their messages written in Arabic *script* whereas the percentage is 0% for women. As for English messages, the percentage is 51% for women and only 28% for men. However, men have 5% of their messages written in French whereas it is only 2% for women.

Within different social classes, and in terms of intra-gender differences, there are significant differences among women in almost all social classes. The percentages of Arabic language messages are 70%, 88 and 47% for upper-lower class, lower-middle class and upper middle class. As for Arabic *script*, the percentages are 17%, 3% and 0%; they are 25%, 7% and 51% for English messages. As for French and other languages; the percentage is 5% for the upper-lower class and lower middle class and 2% for upper-middle class women. As for men, the differences are less than those among women. The percentages of Arabic messages are 82%, 66% and 67%; they are 61%, 59% and 61% for Romanized Arabic messages and 21%, 7% and 6% for Arabic *script* messages for upper-lower class, lower-middle class and upper-middle class men. As for English messages, the percentages are 18%, 34% and 28%, and there are 0% of French messages for upper-lower class and lower-middle class and 5% for upper-middle-class.

As for differences within social classes, there are also distinctions in the languages used in those messages. In regards to Arabic messages, the percentages are 74%, 79% and 58.5% for upper-lower class, lower-middle class and upper-middle class; they are 56%, 75% and 55% for messages written in Romanized Arabic and 18%, 4% and 3.5% for Arabic *script* messages. As for English messages, they are 23%, 17% and 38%, and there are 3%, 4% and 3.5% of messages written in French and other languages.

With regard to religion, there are inter-gender differences within the same religion as well as differences between men and women in different religions. As for intra-gender differences within the same religion, in regards to women, there are significant differences in all the languages used in their messages. Whereas Christian women have 25% messages in Arabic with 0% for Arabic *script* messages, Muslim women have 83% messages in Arabic and 5% messages in Arabic *script*. As for English messages, the percentage is 62% for Christian women and only 15% for Muslim women, and it is 13% for French and other languages among Christian women

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and only 2% among Muslim women. On the other hand, in terms of men's messages, there are similarities as well as differences in the languages used in their messages. The percentage of Arabic messages is 61% for Christian men and 71% for Muslim men; however, the percentage of Romanized Arabic messages is the same for both of them (61%). As for messages written in Arabic *script*, it is 10% for Muslims and 0% for Christians. Again, the percentage is the same for English messages (29%), but different for French messages; it is 10% for Christians and 0% for Muslim men.

There are also inter-gender differences within the same religions. As for Christians, There are significant differences between men and women. As for Arabic messages, the percentage is only 25% for women whereas it is 61% for men, and it is 0% for Arabic *script* messages for both of them. The results are almost the opposite for English language messages; the percentage is 62% for women and it is only 29% for men. As for French and other language(s) messages, the percentage is 13% for women and 10% for men. In regards to Muslims, The percentage of Arabic messages is 83% among women and 71% among men, and it is 5% and 10% for Arabic *script* messages. As well, men also have almost twice the English messages (29%) that women have (15%); on the other hand, whereas women have 2% of messages written in French and other languages, men have none.

There are also significant differences between men and women in different religions. The percentages of Arabic, Arabic *script*, English in addition to French and other language(s) messages are 34%, 0%, 45%, and 12% for Christians and 70%, 7%, 21% and 2% for Muslims.

What is noticeable in regards to Arabic *script* messages is that in all contexts, whether in terms of gender, social class or religion, men have a higher percentage of messages written in Arabic *script* than women. Moreover, it is mostly used within upper-lower class men and women, but never at all among upper-middle class women or Christians, both men and women.

To recapitulate, the global results of this hypothesis confirm the hypothesis that men and women behave differently in SMS messages that have no code-switching whether in intra- or inter-gender contexts or within the same or different social classes and religions.

5.7. Salient features

In this section I discuss the salient features that have been found in students' SMS messages, mostly in women's messages. Some of these features are unique and innovative ways of using prepositions, articles, interjections, or fillers, in addition to witty blending practices, peculiar language usage by the one person, character identifiers, and humor.

These findings corroborate the research that indicates the relation between code-switching and such occurrences of salient features, in addition to the relation between women and linguistic innovation (see 2.1.4.1.2 for the general relation, and 2.2.3.1 and 2.2.3.2 for studies of computer-mediated communication).

The findings of Sukyadi et al. (2012: 104) are in line with some of the linguistic features found in students' messages: women use more intensifiers than men do: "female facebook users use intensifiers to emphasize the quality of what they are describing rather than to assert their opinions or viewpoints" (Sukyadi et al. 2012: 104). In their study, I have come across the same examples as those found in this study, for example, "(uuuuuuuuuuuuuu i'm soooooooo happy today!!!!)". Again, where women in my study mix Arabic and English, women have been found to mix English words with Indonesian words in order "to play on words" (Sukyadi et al. 2012: 105). The results are also in harmony with those of Gohardehi and Gheitury (2014: 535-7) where Iranian women use more emotional language in their messages and that they usually "express support and affection in their messages" more than men do. Some of the gender differences in the lexical features used in SMS messages in Al Rousan (2014) are similar to the findings of this research. For example, women have been found to be more likely to excel in certain "word-formation processes such as borrowing, derivation, blending and compounding" in addition to "lexical reduction and shortening". Women seem to be ahead of men in borrowing English words and expressions and placing them in Arabic messages (Al Rousan 2014: 274).

Moreover, these findings coincide with previous studies that attest the advent of new language practices occasioned by technological means. For more examples on these linguistic features, see sections 2.2.2.1, 2.2.2.4, 2.2.3.1 and 2.2.3.2.

Grinter and Eldridge (2001: 234-5) see that text messaging has changed communication in such a way that "the terseness of the media makes it possible to have short, blunt conversations". It "has a specialised language associated with it," and that "is still evolving"

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(Grinter and Eldridge 2001: 235). According to Thurlow (2003: unpaginated), “young text-messagers manipulate conventional discursive practices with linguistic creativity and communicative competence in their pursuit of intimacy and social intercourse” (Thurlow 2003: unpaginated). Similarly, Ling et al. (2005: 89) “assert that SMS communication is developing a set of everyday genres” and that the users of SMS have a set of “reciprocal typifications” of communication events. According to Hård af Segerstad (2005: 49) “the use and adaptation of written language in mobile text messaging is to be regarded as a variant of language use, creatively and effectively suited to the conditions of SMS and the aims for which it is used”. Crystal (2008) says that “Textspeak is characterized by its distinctive graphology” and is mainly featured by “rebus abbreviation”: “Words are formed in which letters represent syllables, [...] Use is made of logograms, such as numerals and symbols, [...] Punctuation marks and letters are adapted to express attitudes (the so-called smileys, or emoticons)” (Crystal 2008: 80). For Green (2007), texting “is hardly a language that we can speak aloud. Driven by the need to render smaller, our acronyms and abbreviations exist usefully only in the screen’s pixellated characters. One reads them as the words they were when committed to the technology” (Green 2007: 127). According to Gorney (2012), technology is “the most influential catalyst for change in today’s era”, and that computer-mediated aspects such as “email, texting, and Facebook have led to new words forming, new grammatical changes, and other modifications that are both subtle and noticeable” Gorney (2012: 39). Halliday (2003) believes that we witness a change in discourses and that those electronic texts are reducing the distance between spoken and written modes; they have developed their own “features and patterns” that are part written part spoken and part perhaps unlike either” (Halliday 2003: 415).

5.8. Questionnaire

In this section I discuss the results of the questionnaire. Some of the questions in the questionnaire have been formulated to match certain questions in the interview, and this was mainly done in order to triangulate the study and achieve more in-depth responses. The first section in the questionnaire is made up of six questions on using English in SMS messages. I will discuss the questions together.

The answers to questions 1 and 4 indicate that most students do *not* believe English is capable of enriching their language (60%) or that they should abandon their language (53%).

The answers to question 2 suggest that 50% of the students do not think English in SMS indicates prestige, although I suspect these answers do not mirror the whole truth because in general, people do not admit doing things out of prestige. Besides, men have a higher percentage of self-reported agreement that English is an indicator of prestige (41%) than do women (26%), and this corresponds to the general finding that men code-switch less than women and tend toward ‘covert’ prestige. In other words, men know very well that using English in SMS messages is a kind of prestige, but they refrain from it and this might be the reason why they code-switch less in general.

This could also be anticipated from the answers to the third question “Using English in mobile text messages indicates education”, where 70% of the students agree. There is a kind of contradiction in the answers to these questions: half of the students (50%) do *not* agree that using English is a kind of prestige but they do agree it indicates education (70%).

The responses to the statement “Using English in mobile text messages can be seen as a good means to access Western culture and technology” show that a slight majority of the students (54%) agree. The answers to this question could also respond to questions 19 and 20 in the interview (see below) on the languages the students will be using in the future.

On the other hand, the responses to the sixth proposition “Using English in mobile phones indicates cultural colonization” reveal that most of the students (69%) agree. They seem generally aware of the effects of adopting English and they know very well how English, as the globalized language, has come to control the world around them.

The second section of the questionnaire is made up of four questions on code-switching. The answers to the proposition “The extensive use of English code-switches can pose a linguistic threat to Lebanese Arabic” indicate that most of the students (64%) agree. This question correlates with some of the questions in the previous part: along with thinking that using English in mobile phones is an indicator of cultural colonization and that it can pose a linguistic threat to Arabic, they also believe that English is an indicator of their education level as well as their means to access Western culture and technology.

The second question in this section was “Do you usually code-switch when you talk to others?”. The answers show that women have a higher percentage of self-reported code-

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switching while talking to others (85%) than men (71%), and this is in agreement with the general view that women have a tendency towards ‘overt’ prestige whereas men incline towards ‘covert’ prestige. This could also reflect men’s and women’s attitudes to the question of prestige, where men have a higher tendency than women to think that using foreign languages is a mark of prestige.

The answers to third question “Do you usually code-switch in your SMS messages?” are in accord with the general findings of this study, primarily with the finding that women code-switch more than men. Surprisingly, upon comparing the answers to the previous question and this one, we see that both men and women stated less frequency of using code-switching when talking to others than when they write their SMS messages. This could be due to the fact that either they are unaware how much they code-switch or that they have become so used to code-switching in their daily life that it has become a habit for them and hence they do it unconsciously.

In the answers to the question “Do you code-switch with: men/women?”, women reported they code-switch more with women (91%), adding up the percentages of sometimes, very often and always) than they do with men (82%) in their SMS messages, which is in agreement with the general results of this study where women have been found to code-switch with women (75%) more than they do with men (25%). As well, men stated they code-switch more with women (84%) than they do with men (75%), and this also harmonizes with the findings of this study where men have indeed been found to code-switch with women (53%) more than they do with men (47%). It seems that both men and women *are* aware that they code-switch more with women. In general, the results jibe with hypothesis three in this study, which states there are intra-gender as well as inter-gender differences in SMS messages.

The third section of the questionnaire is divided into five questions on language use and acquisition. The first question “Other than Arabic and English, what languages do you know?” is equivalent to question five in the interview “What language do you know? How well?”. The findings for both questions indicate that women have a higher command of foreign languages.

The second question “What language did you first learn before school age?” is in tune with the fifth question in the interview, particularly the part that states that almost all men and women are L1 speakers of Arabic. In addition, it correlates in one way or another with question six in the interview “Have you lived abroad? In which country and how long?”. Both of these

questions in addition to the following one reveal the factors that shaped the students' linguistic repertoires. In addition to the school being an English-medium or French-medium school, which is the main factor that strongly affects students' linguistic repertoires, there is another factor that has to do with the parents' linguistic repertoire as well as the student's social environment in general. Some Lebanese families use either French or English to communicate with their children and they rarely talk to them in Arabic, and this is clearly indicated from students' answers to the question on the languages they learnt before school age. Moreover, there is the factor of living abroad or as in one of the cases in this study, when the mother is not Lebanese or does not know Arabic.

The third question in this section, "In what language(s) you were mostly taught in previous schooling?" is in accord with question seven in the interview, which is related to the percentage of language(s) of students' study material. Both questions reveal that English was the first foreign language of study for most of the students.

Question four in this section is about the languages subjects normally use to communicate in different social contacts, and it is highly consistent with question eight in the interview which is about the languages students use in their daily life when they are away from college. Both questions are in accord with the findings of hypothesis two where the SMS code-switching of both men and women has been found to be dependent on the addressee or the recipient of the message. Usually men and women code-switch less with people of different age groups; they tend to use more Arabic in informal settings and sometimes they use the Arabic script, and English in formal ones. On the other hand, with people in the same age group, they code-switch much more in their messages than they write Arabic or English messages separately, and all their Arabic messages are written in Romanized Arabic.

The last question in this section is about the languages subjects normally use when they write their SMS messages to different social contacts, and it is totally in tune with questions nine, ten and eleven in the interview. The findings from this question are in line with those of the previous one: the languages used to write SMS messages are highly dependent on the audience. This is to say that those SMS messages are a sort of replication of the students' daily communication habits. Whereas they mostly use Arabic, and sometimes Arabic script, in the messages they send to people of different age group, they would mostly use English with their professors or bosses. On the other hand, with people in the same age group, code-switching

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between Arabic, English, and sometimes French is dominant in their messages, along with Romanized Arabic. This is in tune with the findings on hypothesis two where both men and women have shown higher degrees of code-switching in intra-generational SMS messages than in inter-generational messages. For those students, English has become equivalent to formality, and Arabic to informality.

5.9. Interview

In this section I discuss the results of the interview. As has been shown in the previous section, some of the questions in the questionnaire and the interview correspond to each other. I will further refer to the same related questions here.

The first three questions in the interview allowed the students to introduce themselves and talk freely with the interviewer. The fourth question was about their parents' jobs and highest education qualifications, and the results had a strong positive correlation with the students' social class (for which the proxy variable here is the university they attend). On the whole, the lower the social class, the lower the level of education and professional occupation.

The second section of the interview has four questions on language backgrounds. The first is about the languages students know and their proficiency in these languages. This question also appears in the questionnaire and, as mentioned, the results in both cases show that women either know more languages or are more interested in learning languages than are men.

The last question in this section, "How about everyday life away from college, how much do you use Arabic versus English (or other languages)?" also appears in a similar form in the questionnaire and corresponds to the findings on the second hypothesis in this study. Factors such as in-group versus out-group, "we" code versus "they" code, in addition to formal versus informal have been shown to be in direct relation to students' code-switching behavior. In response to the question, some students reported code-switching more within mixed-sex groups. This could be also interpreted within the findings on the third hypothesis, where students have been found to code-switch differently in intra-gender and inter-gender contexts.

The third section in the interview is on SMS language use. The first question is "What language do you use in writing SMS messages, English, Arabic in Arabic script or Arabic in Romanized script?", which is similar to question 15 in the questionnaire. The findings indicate

that 100% of the men and women use both English and Romanized Arabic in their messages. Arabic script is rarely used, especially by women (23%), whereas 37% of the men reported using it. On the other hand, women reported using French in their messages more (38%) than men (25%). This is consistent with the general findings on the gendered differences in messages with or without code-switching. The findings of these messages reveal that percentage of Arabic script messages is 4% for women and 8% for men. As for French messages, the percentage is 2% for women and 3% for men; however, women have another 2% of their messages written in other languages.

Another question asked, “Do you use English/Arabic in your SMS messages? If yes, what circumstances do you use it in?”. The reasons given for using English were almost completely different from those for using Arabic. Most of the men and women, more than 80%, prefer using English in their messages because they can type it quickly and it is more practical, and 73% of them gave the same answer for Romanized Arabic. Students gave many other reasons that might make English their favorite language in various domains.

This could be highly correlated with the findings of the last two in the interview, where most of the students reported that English would be their future dominant language, particularly at work. This in turn suggests that English could be a real threat to Arabic language in general and to Lebanese Arabic in particular. This could be also interpreted in relation to some of the students’ answers to the questionnaire. Most students agree that using English is an indicator of cultural colonization and a threat to their language, even though they believe it can be a good means to access Western culture and civilization. On the other hand, most students refrain from using Arabic script in their messages because it is difficult to type and thus is not practical. When I asked them whether they used Arabic in their messages, they would first say that they did, but once they realized I was talking about Arabic *script*, they would change their mind. They rarely think of Arabic in terms of the script. And none of the students reported that using Arabic was prestigious.

This is once more evidence that the status of English threaten the cultural identity of Arabic identity. The answers to the question “If all mobile keypads were multilingual, do you think that would affect your language use on mobile?” hint at the same interpretation. The majority of students (83%) do not mind having a multilingual keypad because they believe it would affect neither their texting habits nor their language choice. Many students prefer calling

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or forwarding Arabic messages more than writing them, and this is further proof of the concept that texting has reshaped the language of communication among people and thus enforces its own rules and its own etiquette. In other words, the widespread use of this new language, so-called “Arabizi”, in different computer-mediated communication is an obvious sign of dependence on the Latin script. Young people, in particular, have become obsessed with this language to the extent they have started using it in their academic writing.

The fourth section of the interview was on the languages used by students for reading and writing. The first three questions tackled students’ reading habits: “Do you read newspapers, magazines or books?” “Which ones?” and “In which language?”. These questions were basically designed to detect any possible relation among variables such as gender, code-switching, frequency of reading, and language competence. The findings suggest there are gender differences, some of which are significant, among these students regarding the type of things they read, the frequency of reading, and the language they read in. There might also be correlations between the percentage of code-switching, frequency of reading, reading language preference, and gender among multilingual students. The percentage of SMS code-switching among multilingual students is 51% for women and 31% for men. As for the languages used in reading, there are 51% women who read in three languages (Arabic, English, and French) whereas it is only 11% among men (who either read in Arabic or English and sometimes in both languages but not at all in French). I have found that 69% of the women read regularly, whereas it is only 11% among men. In other words, those who read in different languages tend to read more and have a higher percentage of SMS code-switching.

This might suggest other hypotheses such as the more languages the participants are acquainted with, the higher the percentage of code-switching, or frequent readers tend to code-switch in their messages more than infrequent readers. However, this has been shown to hold only among women.

The last question in this section was “What kind of things do you write regularly (besides SMS messages)? In which language?”. It was basically designed to draw a comparison between the languages used in SMS messages and those used in other computer-mediated communication domains. The findings indicate that almost all the participants, men and women, use the same language in social media as they use to write their SMS messages, mainly a mixture of Arabic in Romanized script and English. However, they only use English and sometimes Arabic or French

when they want to post something on Facebook or when they want to update a status, almost without code-switching. Once more, the issue of formal versus informal is present. Mostly English, Arabic, or French would be used in formal contexts, whereas code-switching and its inseparable companion Romanized Arabic or Arabizi are suitable varieties in informal settings. This is again to confirm that students' language choice is highly dependent on either the recipient or the setting of communication

The last section in the interview asks the subjects to predict the future use of languages in Lebanon, as well as which languages the participants think they will be using themselves. The findings show that almost 94% of the participants believe that French is declining in Lebanon. This percentage reflects the status of French, which is gradually being dethroned by the overwhelming presence of the English language. The second question asks about the participants' predicted or desired future languages in ten years' time. Once more, the findings reveal the controlling force of the English language in the life of these young people as well as the dwindling influence of the Arabic language. All of the participants, men and women, except for one man (2%) who said he will be using Arabic only, say they will be using English, either alone (45%) or simultaneously with other languages (53%). As for the percentage of English used then, 63% say they will be using more than 50% English in their daily life, 26% will be using around 50%, and only 11% will be using less than 50%.

5.10. Individual differences

I would like to conclude this chapter by saying that my journey with these gender differences in code-switching has not been at all easy. All what can I say is that the distinctions in these SMS messages are complicated and interwoven with gender, age, social class, and religion, constituting an extraordinary phenomenon. They are intermingled to an extent that sometimes you feel lost and perplexed being unable to define them properly. The differences are everywhere; they interact in a way that once you are trying to locate one of them, you come across another one, and so on. Once again, the whole thing is going on and on: you leave the first difference and you become engrossed in the second, and once you go after it, you are once more dealing with a new one. Within the same category, I would find that the percentage of code-switching in one student's SMS messages is 72% whereas it is only 25% for another student. If it

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happens that there are no differences in a certain area, they would fast arise in another. Some of them are totally surprising whereas others are simply predictable. They are not solely differences between two or more variables; they exist even within the single variable, for example, intra-gender and inter-gender as well as intra-generational and inter-generational code-switching. In the messages of one subject, all what you find is a kind of ‘false’ code-switching, with no more than words such as “hello”, “good morning”, or “hey”. On the other hand, in the messages of another subject, you would stumble across messages that are replete with switches from different languages, and which I would call “real” code-switching. According to Milroy (1987: 129) “independent variables of age, sex and area can interact with each other in a complex way in controlling linguistic scores”. Milroy goes on to say that

even within a single social class group, different ‘bits’ of the language are associated with sex, area and age subgroups in an extremely complicated way, patterns of sex differentiation being particularly sharp. Yet, despite these linguistic differences which can be linked firmly to the variables of sex, age and area, there is a large residue of systematic variation between *individuals* which cannot be characterized in any clear way by dividing speakers into further subgroups. (Milroy 1987: 131)

For Wardhaugh (2006: 322-3) differences in gendered speech “must interact with other factors, e.g., social class, race, culture, discourse type, group membership, etc.”. The SMS messages have also offered a snapshot view of those students’ sociocultural backgrounds as well as their own characters. Montgomery (1995: 148) believes that “[t]he genetic code may determine our sex; but social codes provide us with a repertoire of behaviour which defines our gender”.

Hence, parallel to the various studies on linguistic gendered differences in code-switching, this study has revealed that code-switching in young people’s SMS messages is governed by diverse factors and reflects different aspects of those users. I would conclude this chapter by referring to Myers-Scotton (2006):

Codeswitching between two or more languages can be both an index and a tool. As an index, codeswitching can index a speaker’s self-perception, as a multidimensional

person, whether as a member of a specific group, or as a member simultaneously of several groups. As a tool, codeswitching can be used in an ongoing conversation to step in – or out – of a presumed or expected identity. (Myers-Scotton 2006: 73)

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Chapter 6. Conclusion

In this chapter I will first summarize the main findings of my research. I will then recapitulate some noteworthy implications and expected benefits of the findings, along with the main limitations of this study. All these aspects should pave the way for future research.

6.1. Restatement of the main findings

The present research has shown that gender differences in the SMS code-switching messages of Lebanese undergraduates are intertwined with other social variables to constitute a unique sociolinguistic phenomenon. The messages of these students, who are from different Lebanese universities, social classes and religions, in addition to their uses of code-switching, have unveiled many things about them. In the same way these students' messages indicate a uniquely Lebanese style of code-switching, the code-switching is in turn a reflection of their identities characterized by their gender, social class or religion. In general, there are clear-cut distinctions between men's and women's code-switching in terms of the age of the recipient, social class and religion, of both the intra-gender and inter-gender types. In addition, men and women have also revealed that they are different in terms of the frequency of switches in their messages, in the percentage of Arabic, English, French and other languages in their code-switching messages, and in the percentages of languages used in the messages that have no code-switching.

On the top of the general findings of this study, the most prominent among all findings could be the inherent connection between the presence of women and all the linguistic features that have been found in this study. Women have shown to be more frequent users than men with respect to various linguistic variables concerning these SMS messages. The results suggest that it is the presence of women, either as receivers or as senders, that generates much code-switching or correlates with other sorts of linguistic features in these SMS messages. Women have been found to code-switch significantly more than men in general, and both men and women have been shown to have a substantially greater tendency to code-switch more with women in terms of intra-generational and inter-generational code-switching. Moreover, both men and women have reported a higher percentage of code-switching with women than with men within intra-

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gender and inter-gender settings. Further, the percentage of women's intra-gender code-switching is much higher than that of men's inter-gender code-switching. Women have also been found to be highly creative in their use of these features. The messages of women, contrary to those of men, are abundant with fascinating examples of blending Arabic and English to create new words that are both funny and expressive. Women also surpass men in the way they use Standard Arabic in their messages to add a sense of humor. What is more intriguing is the way women use linguistic intensifiers in their messages to produce effects such as approval, love, excitement, enthusiasm or any other kind of feeling or effect, and again, with a touch of humor. Thus it is the presence of women once more that has a major impact on the whole process.

6.2. Implications

Certain widespread dichotomies have provoked a vast amount of discussion among linguists over the last few years, and I have encountered those dichotomies throughout this study. I do believe that in regards to certain aspects of Arabic-English code-switching in different computer-mediated communication and within these debates, more in-depth studies are needed, and thus they could be a rich source of research.

6.2.1. Is SMS language a spoken or a written form of writing?

The first issue I would like to present here is the spokenness and writtenness of computer-mediated communication. This is an issue that has grabbed the attention of linguists since the onset of this novel means of communication. The tumultuous development of different aspects of computer-mediated communication and the subsequent feverish rush of people all around the globe to catch up with the latest trends have perplexed linguists and given rise to an endless debate as to whether to consider this type of communication as a written or a spoken form of language.

So what about the language of SMS messages in this research? We can see that the so-called "Arabizi" language has adopted the *spoken* Arabic form, usually the regional dialect, and transformed it to a *written* one by using the Latin script, both letters and numbers. The

emoticons, on the other hand, have similarly replaced the body feelings and expressions and altered them into expressive symbols and faces that say the same thing. Thus, Arabizi and emoticons have both successfully encoded sounds as well as feelings to make up a written language.

Moreover, in the course of this research, all of the gender differences in SMS code-switching could be effortlessly related and thus interpreted in terms of studies that have been basically designed to study language in *conversational* settings. Indeed, the reasons for code-switching in these messages have turned out to be the same as those in the *conversational* mode. And theories that have been tailored to study *oral* code-switching, such as the markedness model, have also turned out to be valid and applicable to this current study.

In short, SMS language has been found to combine the qualities of spoken as well as written language. This language has offered young people the means to *say* exactly what they want and how they feel, but in written words. These messages have thus largely replaced the need to call, to meet, to smile, to laugh, to cry, to frown or even to kiss or hug; they have simply proved to be a representative of – or a compensation for – an external physical world.

6.2.2. Are binary categories the best way to understand gender differences?

The second issue I would like to shed the light on is the binary treatment of gender in most studies. The results of this research suggest that gender differences are much more comprehensive and deeper than mere physiological differences between men and women. They concern intra-gender as well as inter-gender relations. For example, the same person, whether a man or woman, will tend to communicate differently within intra-generational and inter-generational settings. Thus, the audience, the addressee, the place, the time, etc., are all factors that shape the type of communication and the presence or absence of code-switching. For a better understanding of gender differences, Eckert and McConnell-Ginet (1992) have adopted the notion that we should “think practically”, “look locally” and get rid of the “assumptions common in gender and language studies: that gender can be isolated from other aspects of social identity and relations, that gender has the same meaning across communities, and that the linguistic manifestations of that meaning are also the same across communities” (Eckert and McConnell-ginet 1992: 462). Thus binary gender studies might restrict our vision and consequently prevent

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us from seeing the deeper reasons behind gender differences or the factors that have shaped them.

At the same time, this is not a call to abandon gender differences. Gender distinctions have been always there; however, they necessarily operate along with other factors that have sometimes proved to be much stronger. When analyzing my data, I have encountered hundreds and hundreds of these differences; they are there within students from the same gender, university, social class, religion, etc. For instance, I have found drastic differences in the SMS code-switching of two identical twin sisters. On the other hand, there were striking similarities between men and women who belong to extremely different backgrounds. Gender differences enter into variables such as age, social class, religion, or whatsoever. Gardner-Chloros (2009: 3-4) hints at the same point when confirming that “the behaviour of bilinguals can only be properly understood with some insider knowledge of the community and the circumstances where it is displayed”.

To recapitulate, to better understand people who use the same languages within the same community, gender differences need to be studied comprehensively. They cannot be separated from the social factors that interact with them. Together, they constitute a holistic entity that cannot be segmented.

6.2.3. Is Arabic an endangered language?

The third and the last issue in this section concerns the binary opposition between living and dead languages. The excessive use of Romanized script in “chat” or “internet language” as Lebanese students call it, generally known as Arabizi, could form a threat to the Arabic language, basically the Arabic script.

Nowadays everybody is aware of how much time is spent on computer-mediated communication, and particularly how much the new generation is dependent on it. It has become normal to see a group of young people sitting together with none of them uttering a word; you can easily see their facial expressions changing or hear their loud giggling. They can stay for hours on end clutching their mobile phones, staring at them while chatting through SMS, maybe communicating electronically with the people sitting near them. This is just one of the pictures that show how social relations are shaped by the means of communication. My findings indicate

that all of the students in this study use the same language in almost all their SMS messages, and most of them rarely use the Arabic script unless they are forced to. This shows that SMS language has also molded their personalities, and has done so in a way that makes them see the Arabic script as an obstacle: the messages written in Arabic script do not exceed 6% of all the messages. My findings also show that not only do all the students use the Romanized script in their messages, but they also use English in code-switching. The English language would seem to be in control of their present as well as their future.

This leads me to pose some questions about the future of the Arabic language. How can a language survive when it is not spoken by young people? How can a language survive when its users have become unable to say a three-digit number in it? How can a language survive when its users do not know the equivalents of simple foreign words? How can a language survive when it becomes a “stranger” among its people? Many young Lebanese people do not know that the Arabic alphabet has 28 letters; they simply say there are 26 because that is the number of the English alphabet. Most important, how can a language survive when its users see nothing prestigious in it?

I do not know if the same situation is found in other Arab countries, but this problem is very obvious in Lebanon. I do agree it takes any language years and years to diminish; I will not say that the Arabic language will simply disappear within few years. However, those who say Arabic is strong enough to face these challenges probably know nothing about how its usage is shrinking day by day among the younger generation. I believe the language of SMS messages is but an echo of how endangered the Arabic language is nowadays, if not in all Arab countries, at least in Lebanon.

6.3. Expected benefits of the research

This research is expected to be fruitful in terms of what it has revealed about the distinctive features of code-switching in the SMS text messages of undergraduates. It is unique in regard to the many novel areas of research it tackles. To the best of my knowledge, this research is probably the first in the Arab world that deals primarily with gender differences in code-switching between Arabic and English in the SMS messages of undergraduates, and it could be the only one within the area of SMS code-switching. Most of the studies on Arabic-English

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code-switching, or any other language combination, deal with conversational code-switching. Even the very few studies that studied written code-switching have been mainly concerned with areas such as the linguistic structure of the language or the reasons for language choice. What adds to the uniqueness of this study is the fact that it could be the first to tackle intra- and inter-generational as well as intra- and inter-gender SMS code-switching. Moreover, the present research deals with other variables such as social class and religion, which to the best of my knowledge have not been studied elsewhere with regard to code-switching, whether conversational or written, or to SMS messages, or even to any other aspect of computer-mediated communication. To sum up, the research could be the only sociolinguistic study that deals with gender differences in SMS code-switching in terms of age, social class, and religion. Further, this study is expected to add to the area of written code-switching that “remains relatively unexplored and under-researched” regardless of the “variety of data” (Sebba 2012b: 1). The findings will hopefully fill in a gap in studies on code-switching between Arabic and English in computer-mediated communication, on the one hand, and on the gender differences in SMS code-switching, on the other. From a different perspective, the findings of this research could give an impulse to education reforms to strengthen the teaching and especially the prestige of Arabic among young people in order to create greater self-awareness of a generation’s linguistic identity. In so doing, young people might be moved to question what they are doing with their native language.

6.4. Limitations of the research

Throughout this research, I have sought to provide a vivid picture of the phenomenon of code-switching in the SMS messages of Lebanese students. However, I have encountered certain shortcomings or limitations in regards to some aspects of the study.

First, I would have preferred to have more subjects in certain groups. For example, within upper-lower class subjects there are only two men, even though they provided me with a relatively good number of messages (52).

In addition, I think an equal number of Christian and Muslim students would have probably yielded a more valid comparison between these two groups.

In general, the sample size is relatively good, but when analyzing the social classes and religions, the groups become quite small. Further, the subjects in some of these groups have extremely different behaviors. For example, in the upper-middle class men group, the percentages of the subjects' code-switching are as follows: 27%, 32%, 0%, 35%, 45%, 67%, 20%, 19%, 33% and 39%. This affects the data entered into the *t*-tests in such cases; the means of the two genders are often very different but the *p*-value nevertheless indicates non-significance.

My results suggest a possible direct relation between plurilingualism and code-switching in terms of gender, which is a relation that I have not fully explored. In the future, I would like to tackle this issue more broadly and compare the SMS code-switching of bilinguals with that of subjects who speak more than two languages.

Similarly, I have been unable fully to explore gender differences within particular social classes and religions, partly because of a lack of previous studies on gender differences in these variables.

Another aspect that could have yielded some good results on gender differences would have involved asking students about their attitudes towards Lebanese code-switching. I believe that comparing the views of men and women would have provided a richer explanation of why they code-switch.

And finally, I believe that the interview should have included a question about the future of Arabic as the students' native language. More specifically, I should have asked a more direct question about the effects of Arabizi on Arabic and whether they consider this new language a threat.

6.5. Avenues for future research

The results of this research represent an essential step toward understanding the issue of gendered Arabic-English code-switching in computer-mediated communication. In the course of this study, I have come across some significant findings that could be subject to more in-depth studies on written code-switching in the future. In addition, I have found out that there is a scarcity of studies in some areas that could be also a suitable target for future research.

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First, within Arabic-English code-switching in computer-mediated communication, I have found that more in-depth studies on gender differences are needed. Such studies could compare gender differences in CMC by the same participants.

Second, more in-depth studies on gender differences in code-switching in different social classes or religions or among people in different age groups in different modes of computer-mediated communication would definitely enrich the literature of CMC whether within Arabic-English or other language combinations. Other sociolinguistic variables as well could constitute vivid material for future studies.

Third, intra-gender and inter-gender in addition to generational distinctions in code-switching in various computer-mediated communications will certainly be a good addition to the CMC literature.

Fourth, I believe that more research could have been done in the area of the use of French among men. My results have shown that plurilingual men who are not only fluent in French but also use it in their messages with members of their family nevertheless rarely use it in code-switching or even read anything in French, which is exactly the opposite of women.

Fifth, with respect to code-switching in SMS messages, more studies on gendered language that tackle differences in areas such as the length of messages, the typological features and politeness issues, as well as the purposes or manners of messages and the occurrences of switching in relation to specific language(s), will surely reveal more gender differences in the language used in SMS messages. They will also shed the light on similar differences in other aspects of computer-mediated communication.

Sixth, I believe that it would be worth further examining the orthographic and syntactic aspects of these messages, given the creativity of young people in reinventing and reshaping the rules of Arabic and English via code-switching. Sebba (2012a) believes that “language mixing within multilingual texts is potentially multidimensional, involving juxtaposition or separation on both the linguistic and visual dimensions”, and thus, according to him, a framework to study “*units of analysis, language–spatial relationships, language–content relationships and linguistic mixing types*” in multilingual texts will “allow for a rich analysis of a wide range of multilingual texts” (Sebba 2012a: 106, italics mine).

Seventh, the results of this research reflect a threat to the use of the Arabic language in general and to the Arabic script in particular, due to the excessive use of Romanized Arabic

script as well as code-switching by young people. Thus, it would be beneficial if more in-depth studies investigated the effects of adopting the Arabizi language. This could be examined by conducting thorough studies on the effect of Arabizi on students of different ages and from different backgrounds. As well, this could be also investigated by directly studying young people's language use in different modes of computer-mediated communication and in academic writing.

Eighth, although Lebanon has a unique code-switching phenomenon, the little research that has been done on it is unequal to the rich cultural diversity of this country. This could be a fertile topic that would surely yield fruitful results, especially in areas such as social media, television and radio programs. In a small country like Lebanon, where people of many faiths and cultural backgrounds live together, it would be really exciting to know more about how code-switching, a natural Lebanese phenomenon, is used by people of different ages, social classes and religions.

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GENDER DIFFERENCES IN SMS CODE-SWITCHING BY LEBANESE UNDERGRADUATES
Loubna Bassam

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UNIVERSITAT ROVIRA I VIRGILI
GENDER DIFFERENCES IN SMS CODE-SWITCHING BY LEBANESE UNDERGRADUATES
Loubna Bassam

Appendices

Appendix 1. Consent form

Universitat Rovira i Virgili

Intercultural Studies Group

Project: Gender Differences in SMS Code-Switching by Lebanese Undergraduates

I freely and voluntarily consent to be a participant in this research project. I understand I will be one of a group of students participating in this research and that I will not receive monetary payment for my participation. I have been told this study will include two or three meetings of approximately 10- 30 minutes each.

I understand that the purpose of this research is to investigate the gender differences in code-switching in SMS messages of undergraduate students. I will be asked to volunteer a partial set of my SMS messages that might contain mixed Arabic and non-Arabic words, to fill a questionnaire, and to participate in a short interview. I understand that the SMS messages texts to be analyzed are personal in nature and that I am free to delete, prior to submission, any sensitive words or information from the messages.

I understand that all my messages and responses will be confidential (in the sense that my name will not appear in any public records or publications) and that only Mrs. Lubna Bassam and her supervisor Dr. Anthony Pym will have access to these data. I know that the interview will be recorded, and that the data will be used over the next three years although they will be retained indefinitely as records. I further understand that information from all the participants will be grouped together to provide general information about gender differences in code-switching.

I have been told that I am free to ask questions concerning the procedure. I understand that if I would like more information about this research, I can contact Mrs. Loubna Bassam at 00-000000 or lubna.bassam@liu.edu.lb, lubnabassam68@gmail.com.

Gender Differences in SMS Code-switching by Lebanese Undergraduates

I have read and I understand the above. I have been offered a copy of this informed consent form.

Participant's Signature

Date

Participant's Printed Name

I have explained and defined in detail the research procedure in which the participant has agreed to participate, and have offered the participant a copy of this informed consent form.

Investigator's Signature

Date

Loubna Bassam

Appendix 2. Questionnaire

Questions on using English in SMS messages

To what extent do you agree with the following statements?

1- Using English in mobile text messages enriches the Arabic language.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

2- Using English in mobile text messages indicates prestige.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

3- Using English in mobile text messages indicates education.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

4- English should be used in the whole of a mobile text message.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

5- Using English in mobile text messages can be seen as a good means to access Western culture and technology.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

6- Using English in mobile phones indicates cultural colonization.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

Gender Differences in SMS Code-switching by Lebanese Undergraduates

Questions on code- switching

7- The extensive use of English code-switches can pose a linguistic threat to Lebanese Arabic.

Strongly Disagree Disagree Uncertain Agree Strongly Agree

8- Do you usually code switch when you talk to others?

Never Rarely Sometimes Very often Always

9- Do you usually code switch in your SMS messages?

Never Rarely Sometimes Very often Always

10- Do you code switch with:

a- Men

Never Rarely Sometimes Very often Always

b- Women

Never Rarely Sometimes Very often Always

Questions on language use and acquisition

11- Other than Arabic and English, what languages do you know?

12- What language did you first learn before school age?

Arabic English French Arabic and English Arabic and French

Other Specify _____

13- In what language(s) were you mostly taught in your previous schooling?

Arabic English French Arabic and English Arabic and French

Other Specify _____

14- What language(s) do you normally use to communicate with?

Language/ Recipient	Arabic	English	French	Arabic & English	Arabic & French	Other
Father						
Mother						
Siblings						
Grandparents						
Uncle(s)						
Aunt(s)						
Cousin(s)						
Nephew(s)						
Niece(s)						
Colleagues(s)						
Other friends						
Boss						
Professor						

Other Specify

Gender Differences in SMS Code-switching by Lebanese Undergraduates

15- What language(s) do you normally use when you write your SMS messages?

Language/ Recipient	Arabic	English	French	Arabic & English	Arabic & French	Other
Father						
Mother						
Siblings						
Grandparents						
Uncle(s)						
Aunt(s)						
Cousin(s)						
Nephew(s)						
Niece(s)						
Colleagues(s)						
Other friends						
Boss						
Professor						

Other Specify

Appendix 3. Interview

Personal information

1- What's your name? _____

2- What is your major? _____

3- Which year? Or, are you junior, sophomore or senior?

4- What do your parents do? What is their highest education qualification?

Language background

5- What languages do you know? How well?

6- Have you lived abroad? Yes No

If your answer is yes,

A. which country _____

B. how long have you lived there? _____

Gender Differences in SMS Code-switching by Lebanese Undergraduates

7- At school, what was the percentage of your study material given in Arabic vs. English (or other languages)?

8- How about everyday life away from college, how much do you use Arabic vs. English (or other languages)?

SMS language use

9- What language do you use in writing SMS messages, English, Arabic in Arabic script, Arabic in Romanized scripts?

10. Do you use English in SMS messages? Yes No

If your answer is yes,

A. what circumstances do you use it in?

I. Formal circumstances: - In work
 - In university
 - Other. Specify _____

II. Informal circumstances: - With L1 speakers of English
 - With family members
 - With friends
 - With relatives
 - Other. Specify _____

B. Why do you use it? - I can type it quickly

- It is more prestigious
- I feel more comfortable
- Other specify _____

11. Do you use Arabic in SMS messages? Yes No

If your answer is yes,

A. In what circumstances do you use it?

- I. Formal circumstances:
- In work
 - In university
 - Other Specify _____

- II. Informal circumstances:
- With people (who) only know Arabic
 - With family members
 - With friends
 - With relatives
 - Other specify _____

- B. Why do you use it?
- I can type it quickly
 - It is more prestigious
 - I feel more comfortable
 - Other. Specify _____

12- If all mobile keypads were multilingual, do you think that would affect your language use on mobile?

Gender Differences in SMS Code-switching by Lebanese Undergraduates

Language used for reading and writing

13- Do you read newspapers regularly? Which ones? In which language?

14- Do you read magazines regularly? Which ones? In which language?

15- Do you read books regularly? Which ones? In which language?

16- What kind of things do you write regularly (besides SMS messages)? In what language?

Future language

17- As for the French language in Lebanon, do you think that it is growing or declining?

18- What are you going to be doing in ten years? Or what do you like to be in ten years' time?

19- What language do you think you will be using?

20- What is the percentage of English you will be using in your daily life?

Gender Differences in SMS Code-switching by Lebanese Undergraduates

Appendix 4. Sample email

I am conducting a research study on code switching between Arabic and English in the SMS messages of undergraduate students from diverse social and linguistic backgrounds. I am particularly interested in gender differences in these messages, and I would highly appreciate it if you can help with my research by asking your students to volunteer a partial set of their SMS messages that might contain mixed Arabic and non-Arabic words. By Arabic here, I mean messages written in Arabic characters as well as those written in non-Arabic characters, Romanized or Latin script.

The messages targeted are only those sent by students, men and women, to different social contacts as I might not have the right to share messages they received from others. The students have the right to remove or delete any sensitive words or information they would like to protect from the messages they will volunteer. For each message, I would like them to provide the category (i.e. parent, brother, sister, grandparent, uncle, aunt, cousin, friend, teammate, classmate, professor, boss, etc...) the receiver belongs to, and of course, they have to identify the gender of the recipient. I would also like to collect students' emails and phone numbers so I can contact them. Upon agreement to participate in the study, students will receive two copies of a consent form; both are supposed to be signed by the participant and by me, and each party would keep a copy. Moreover, the students will be asked to fill a questionnaire, and then a short interview will take place.