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CODE SWITCHING AND GENDER IN SMS TEXTING AMONG ALGERIAN UNIVERSITY STUDENTS. THE CASE OF 4TH YEAR STUDENTS OF ENGLISH, DEPARTMENT OF ENGLISH, UNIVERSITY OF ALGIERS 2

Abstract

The paper at issue addressed the nature of SMS messaging by focusing on gender differences in terms of code switching types' use, on the one hand, and differences in language choice among male and female texters, on the other hand. The study consisted of the examination of a corpus of 120 messages sent by Algerian 4th year students of English belonging to a multilingual context in an attempt to identify instances of code switching and language use in their messages. The results highlighted the occurrence of two types of code switching namely: Extrasentential and Intrasentential switching types, with the last mentioned as the most frequent type. In terms of gender, the results showed significant differences in code switching behaviours between males and females, with females code switching much more, on the one side, and using Intrasentential code switching type more, on the other side. Conversely, Extrasentential code switching type was absent in both groups' messages. In terms of language use, English was the most frequently utilized language by both male and female texters. Despite the fact that both sexes use English in their messages, the data showed significant disparities in language use among male and female texters.

Keywords: code switching, gender, language use, multilingual context, SMS texting.

1. Introduction

Digital technology outstanding advancement has notably marked a real breakthrough in people traditional ways of communication. Plainly, online interactive media such as SMS (Short Message Service) messaging or texting (used interchangeably to refer to both the medium and the language variety here) is increasingly acknowledged as one of the most influential inventions that has greatly impacted on human language. With the use of mobile phones, language is held to be neither speech nor writing but a new-fangled and innovative mode of communication that is widely adopted and accepted among lay people and academia alike.

Over the past two decades, academic interest in SMS language has stressed the importance of considering SMS texting as a unique mode of communication that deserves particular attention, mainly by investigating its properties from different linguistic, pragmatic, cross-cultural perspectives. Ultimately, the main objectives of the initiated studies were geared to accounting for language variation and hence, providing evidence for the dynamic aspect of human language and its potential creativity and variety.

2. Review of Literature

Despite the widespread use of mobile telephony among people and the remarkable technological leap noted during the two last decades, academic interest in SMS texting is only recent and quite scattered. Early interest in SMS texting concerned the examining of the abbreviated forms among youngsters that are considered to be the heaviest users of messages when compared to adults or older texters (Thurlow and Brown, 2003; Crystal, 2008; Shortis, 2007; Kasesniemi, 2003; Hard af Segerstad,2005; Haggan, 2007; Bush, 2005). The linguistic data analysis affirmed the assumption that youngsters use more deviations than adults in several cases and countries with one additional observation that disclosed contrasts in men

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and women texting styles. Indeed, texting is revealed to be more popular among youngsters, but with female texters outperforming their male peers in both the amount and the complexity of the texts produced (Ling, 2003; Kasesniemi, 2003; HardafSegerstad, 2005).

Yet, research says very little about SMS texters and their language use and choices in multilingual contexts where more than two languages are used. In fact, when reviewing the literature on SMS research, one noticed point deals with the fact that most studies were carried out in monolingual contexts where only the native language is used; or bilingual contexts where two languages are used: the native language in combination with English as a second language. The exceptionally few studies conducted in bilingual countries such as Kuwait, South Africa, Finland and Nigeria reported heavy use of code switching that resulted in a mixture of English with the national language in the users of SMS texts (Haggan, 2007; Deumert and Masinyana, 2008; Kasesniemi, 2003) or interestingly, the recourse to only one language while texting without language mixing (Chiluwa, 2008).

Nonetheless, one noticeable work that deals with code switching in multilingual contexts is reported and concerns AitMouloud (2011) investigation on the use of SMS among Algerian youngsters from the region of TiziOuzou, by examining code switching types and languages use. The results have shown that French is the language which is mostly used in SMS texts, followed by Non-Standard Arabic and then Berber (which is spoken by 69% of the population under study). Gender differences in code switching types' choice have also been spotted by demonstrating females' extensive use of Intersentential code switching type when compared to male texters. AitMouloud has concluded that despite the fact that participants are Berber and Arabic speakers, the participants use the French language in most SMS messages as a communicative strategy to guarantee a wider communication among young texters.

At this ultimate point, it is worth noting that more research including multilingual contexts is highly needed. In this vein, it is not wrong to assume that in multilingual contexts, one can possibly predict different and specific language uses as the mixture of two, three or four languages concomitantlyas a natural consequence of languages in contact, on the one hand, and/or a consequence of the texters selected strategies for communication, on the other hand. Many linguistic features that are inherent to speakers evolving in multilingual social environments are generally represented by code switching, interferences, borrowings or language shifts. At the time being, these aspects are extensively studied by Sociolinguists in bilingual and multilingual contexts but received very little attention in SMS texting research.

2.1Code switching in Research: Defining concepts

As previously stated, this paper intent is examining code switching (CS hereafter) practices in SMS texting in an endeavour to throw additional light on code switching from the angle of digital communication, which is quite genuine as this last-mentioned has continuously been considered in face to face conversations more specifically. But before moving to the core of our study, essential concepts that are related to Code switching definitions and the types connect to this latter ought to be clarified and explained in order to bring a clearer and comprehensive understanding of the topic under scrutiny. With this said then, one needs to understand first the basic terminology used in the literature as it is explained and shared among scholars.

Broadly, mixing codes or systems (used interchangeably to mean the same) is viewed as a habitual and often a necessary part of social interaction in many bilingual and multilingual communities where two (in bilingual communities) or more than two languages (in multilingual communities) are daily used Hoffman (1994). This, for many researchers (Hoffman, 1994; Wardhaugh, 2006; Gumperz, 1982; Myers-Scotton, 1995) comprises the alternative use of two or more than two languages during the same conversation or in the same utterance, which helped establish different code switching (CS, hereafter) types. Among these types, Hoffman (1991) reported the three most acknowledged types existing in the literature.

The first CS type is referred to as Intersentential CS type which is considered as the true CS that occurs above sentence level that takes place when using two languages by stopping

using one language to move to another. The second type is referred to as Intrasentential CS that occurs within sentences by including small constituents such as nouns, verbs or complements and longer and more complex constituents such as phrases and clauses. The third and last type is the Extrasentential or Emblematic CS type that occurs when bilinguals use tags, exclamations, interjections and idiomatic expressions (Hoffman, 1991, p. 104).

Additional to this, Poplack (1980) suggested two types of CS: the *Intrasentential* and the *Extrasentential*CS types. To Poplack, *Intrasentential*CSinvolves languages switching by using Nouns, Noun phrases, Verb phrases, verbs, Complements, Relative clauses and full Sentences. Conversely, *Extrasentential (orEmblematic CS) type* refers to the inclusion or use of tags, idiomatic expressions, exclamations and interjections. To Poplack, tags, idiomatic expressions, exclamations and interjections are freely moveable constituents which may be inserted almost anywhere in the sentence without fear of violating any grammatical rule (1980, p. 589). Conversely, Gumperz (1982) made a distinction between two different types of CS named situational and metaphoric switching. Situational switching refers to instances of code-switching that are motivated by the social event, whereas metaphorical switching is when people switch codes depending on the kind of topic, not the situation.

Evidently, agreement on one and definite typography is revealed difficult to attain with potential terminological problems related to CS when associated with the major composing linguistic units. In addition, the proliferation of CS type' definitions, with the different categories include *Intersentential, Intrasentential* and *Extrasentential*madethe distinction between the three types unexpectedly difficult. Consequently, a decision is made to opt for Poplack's typology which we believe is the simplest and clearest distinction that could be made at this point.

In this respect, CS types will be analyzed according to Poplack's definitions of CS types by distinguishing between *Intrasentential* CS that involves nouns, noun phrases, verb phrases, adjectives, verbs, complements, relative clauses and sentences; and *Extrasentential*CS type which refers to the inclusion or use of tags, idiomatic expressions, interjections and exclamations. Therefore, both *Intrasentential* and *Extrasentential* CS types'definitions will be adopted in this study and utilized to analyze the data in the light of the two types. The two types will be used to refer to all the movements from one language (or languages) into the native or matrix language (or languages) as being a switch from one language to another. This will concern the total switch from one language to another, the insertion of complete sentences or single words within sentences from the target or guest language to the matrix one.

Yet, code switching shouldn't be viewed as a plain linguistic play and interplay of the systems as it serves very intricate individual, social and symbolic functions that are significantly multifaceted. Code switching for many scholars can be used as communicative strategies as well for face considerations in the situations the speakers are involved in (Myers-Scotton, 1995). Speakers by using code switching can also perform numerous acts such as asserting power, expressing identity, declaring solidarity and maintaining certain neutrality when both codes are used. Code switching can also be used as an accommodation strategy to listeners, to the topic and the perceived social and cultural distance where the motivation of the speaker is an important consideration in language or languages choices (Wardhaugh, 2006; Hoffman, 1994; Gumperz, 1982).

Along with these mentioned factors, Sridhar (1996) added the importance of languages distribution in multilingual contexts where differences are highlighted in terms of functionality and context. In fact, to Sridhar, the phenomenon of *" the asymmetric principle of multilingualism"* (1996, p. 50) is very common in the multilingual contexts where all the languages in the repertoire of a multilingual community are not equally distributed in terms of power, prestige, vitality or attitude and where some languages are more valued than others (Sridhar, 1996). This is explained by the number of roles played by any language as supported by Sridhar who claimed that the position of a given language on a hierarchy is determined by power or prestige or attitude but for very pragmatic considerations. Languages higher places in the hierarchy are justified by the number of the desired roles a language enables its

speakers to play in a given society (Sridhar, 1996). This is highly connected to the "*Selective Functionality*" (Sridhar, 1996, p. 50) as every multilingual develop competence in each of the codes depending also on their psychological needs and the contexts in which each of the languages is used.

A multilingual might have an excellent reading, writing, speaking, comprehending knowledge of one or two languages but might be more comfortable using one language for academic or professional purposes, and another for intimate or emotional expression. This is in part a function of differential command of registers (functional variety) but also of habitual association between language and context (Sridhar, p. 50). Consequently, every language in a multilingual context has a distinctive position depending on the roles and functions it fulfils in the society which help to represent distinct identities and consequently serve various communicative demands of multilingual communities (Sridhar, p. 53).

In addition to that, languages use and selection differences have been highlighted by many sociolinguistic studies that stressed the importance of emotional, psychological and symbolic reasons mainly in gendered communication. Notably, men and women don't communicate and use languages in the same fashion as both have different communicative goals. In fact, for many researchers (Brown, 1980; Cameron, 2003; Tannen, 1997; Lakoff, 1973; Trudgill, 1998; Tannen, 1994), these differences are attributed to psychological, symbolic or/and socio-cultural factors that make women and men use language differently in communication.

For some scholars, women are generally deprived of power and as a compensating consequence; they use more dramatically standard, prestigious languages and style shifts than men in a symbolic attempt to beat this powerlessness (Eckert, 1989). This also highlighted males' use of non-standard forms that reflect masculine solidarity such as toughness (Trudgill, 1974). Besides the symbolic drives that make women being attracted more to prestigious languages' use, the communicative intents are revealed to be different as well. In many communicative instances, women while using languages seem to be interested more in maintaining relationships and connections which is significantly different from men communicative intents that aim at holding opportunities of negotiating status and preserving identity (Tannen, 1997).

Interestingly enough, this is noted also in SMS texting studies where gender differences were observed. In fact, some studies (Kasesniemi, 2003; Ling, 2003) pinpointed the heavy use of texting mainly by girls who often place greater emphasis on providing emotional exchanges and maintaining inter-personal relations by using longer and more syntactically complex sentences. In contrast, males place greater emphasis on speed and information transmission by composing messages that tend to be brief, informative, practical and fact-oriented.

At this ultimate point, it deems reminding that what has been mentioned so far concerned CS in face to face conversations and concerns thus only CS practices in the real world, not the virtual or digital one. In the light of the previously mentioned attempts made in analyzing CS in SMS texts (Haggan, 2007; Deumert and Masinyana, 2008; Chiluwa, 2008), there is no doubt that further research is needed to distinguish between bilingual and multilingual linguistic behaviours in matters of code switching in connection to SMS texting. Indeed, any results and conclusions drawn in regard to face to face communication or digital communications in bilingual contexts cannot be generalized to multilingual ones, where more than two linguistic systems are used. It is not wrong to assume that in multilingual linguistic environments, possible mixtures between three or more languages are predicted and examining these possibilities, we believe, can throw additional light on the topic and bring more evidence on the particularity of multilingual contexts and texting practices.

3. Methods

3.1 Context

In the light of what has been reviewed so far, and in respect to the growing noteworthiness of SMS messaging as a social phenomenon and a subject of academic interest in many

countries all over the world, an investigation in the field that aims at understanding the mechanics of SMS texting within a multilingual context would be of high relevance and significance for a better understanding of the topic. Besides, working on SMS texting in relation with gender and code switching is purposefully set to approach the topic from three different lenses and exert the benefits of an interdisciplinary approach in research.

To this end, a case study that concerns multilingual female and male university students mastering four languages: Non- standard Arabic or Berber as mother tongues, Standard Arabic as a first language and a language of instruction, French as a second language and English as a foreign language and major at university, is carried out in order to account for the particular uses of SMS messaging in relation with code switching when handling more than two languages concurrently. This linguistic context is particular to the participants of this present case study as Algerian people in their everyday life interactions use almost three languages: Non-standard Arabic or Berber as mother tongues, Standard Arabic and French language referred to as a second language. This singularity has been inherited from the Algerian historical past of years of French colonialism that enhanced the image of the French civilization and as a consequence lifted the French language to a language of Education and eliteness.

In this particular scope, the study aims at accounting for the multilingual texters' behaviours by probing deeply into their messaging practices in terms of code switching types and language choices with one additional connection to gender. As mentioned earlier, this perspective has received very little attention in today's research agendas either in or out of Algeria and more to fill this gap in research on SMS texting in regard to code switching and gender in a multilingual setting and in an Algerian context, more specifically, two research questions are raised:

1. Do female students of English texters differ in their code switching from male student texters in terms of intra-sentential vs. inter-sentential code switching? If yes, how?
2. Do female students of English texters differ from male student texters in terms of language choice? If yes, how?

Ultimately, the main objective of the questions is to scrutinize the nature of SMS messaging among university students of English and examine gender differences, by focusing on the types of CS used by male and female texters and eventually determine their preferences in terms of language use. To that end, an exploratory/qualitative method through which all conclusions are data-driven is conducted by using a corpus of students 'messages obtained via a questionnaire administration. The analysis of the corpus will help to answer the above-mentioned research questions by presenting and interpreting the findings.

3.2 Participants

The informants are forty (40) English language students studying at the Department of English of the University of Algiers, Bouzareah. Twenty (20) of the participants are female students and twenty (20) informants are males. The forty students belong to 4th-year classical system, with an advanced level in English. Both males and females groups include Non-standard Arabic speakers (10 males and 10 females) and Berber speakers (10 males and 10 females) which are considered as the participants' mother tongues. Both groups also master standard Arabic as being the Algerian official language and language of instruction from primary school to high school, in addition to French and English which are considered as foreign languages.

Native or mother tongue variable was cautiously controlled for three major reasons: the first concerns the fact that the majority of students in the English department are young Algerian students who speak both Berber and Non-standard Arabic. This study does not contain students belonging to other nationalities (namely African countries, as a number of them, are following their studies at the English department). By working with this group of students where Berber and Non-standard Arabic co-exist in the classroom, we felt the need to provide an accurate description of the real population belonging to the Algerian English student classes of the University of Algiers.

The second reason for selecting Berber and Non-standard Arabic speakers lies in our interest to explore additional research paths by looking into the linguistic behaviours of both, mainly when dealing with language choice and preferences. The third and last reason is motivated by our interest to work with ideal multilingual speakers who use three and sometimes four languages in their everyday life interactions, which is the case of the students taking part in this study.

Besides, this category selection is guided by our interest in understanding the possible correlations between language command and CS in SMS texting. Essentially, this curiosity is prompted by many scholars (Myers-Scotton, 1995; Poplack, 1980) agreement on the fact that CS easiness to shift from one language to another or within the same sentence is inevitably a significant mark of perfect bilinguals. CS in this line requires a certain level of linguistic proficiency which is acknowledged as a valuable individual and social skill. Additionally, given the prestigious aspect of English as the language of technology and knowledge, students of English will be expected to use this latter extensively in their messages.

Given the case study nature of the investigation and the academic context chosen here, the convenience type of sampling is used as a first step which is straightly followed by a stratified sampling step to make up two distinct groups that are sorted out according to gender to meet the study objectives in terms of gender differences. The 4th- year classical system level contains 750 registered students (the official number provided by the administration of the English Department) for the year 2011 and 2012. As far as our sample is concerned, the selection of a small group (40 students) obeys to the nature of our research methodology which is exploratory and qualitative. In most qualitative methodologies, the size of samples is less important than the insights the research can put forward for a better appreciation of the topic under scrutiny. Thus, any generalization of results is made impossible at this stage and can only be possible with larger samples and longitudinal studies that can be carried out in the future.

3.3 Procedures

The data collection phase consists of a compilation of students' messages that represents the corpus of the present study. SMS texts gathered from the 40 students consists of the content of the last three messages sent by the subjects that resulted in a body of 120 messages which have been analyzed, counted and interpreted. For ethical reasons, informed consent and voluntary participation were sought and respected. Besides, the participants were asked to write the last three messages sent as opposed to those received. Ethically speaking, it was not possible to ask for messages a respondent has received since implicitly this includes data from people who have not given consent to participate in the study. Second, the participants were insistently requested to write down and reproduce exactly the same texts without any alteration. This is carried out to preserve the authenticity of the texts and, therefore, give more validity to our research.

As a first step then, the content of the messages is analyzed to determine the amount of CS occurrences, the CS types and last, the language choices related to gender. For the amount and CS types' occurrences, the major criteria adopted in this study deals with the grammatical categorization of the switched items. Accordingly, *Intrasentential* CS type will involve the identification of Nouns, Verbs, Complements, Determiners, Noun phrases, Verb phrases, Relative and Subordinate clauses and complete sentences. Meanwhile, *Extrasentential* CS type will concern the identification of tags, idiomatic expressions, interjections and exclamations.

Based on these two CS types, the second step in the study consists of the quantification of these types' occurrences via the calculation of the frequency number of sentences, clauses, nouns, verbs and complements that entered the matrix languages. In this respect, all the words and sentences that enter Non-standard Arabic or Berber are counted and reported. Thereafter, the reported numbers are cross-tabulated to account for possible similarities and /or differences between the two groups. For stability sake, though, all the switches are counted with regard to the native language (in our case from Non-standard Arabic and Berber)

presupposing that our participants will be using both as matrix languages, and any switching will take place from these two languages into Standard Arabic, French or English and may be the three of them as guest or embedded languages. This argument is justified by the fact that most bilinguals generally use their mother tongues as a base language and then mix up with other languages, be it a second, a foreign language or a dialect in some circumstances.

Therefore, to answer the first research question: *Do female English student texters differ in their CS types?,* two charts are proposed. The first is a representation of the amount of Intrasentential CS instances by comparing both males and females' amounts in reference to the total number of CS occurrences. The second chart represents the amount of Extrasentential CS instances by comparing both males and females amounts and recourses to this CS type. By presenting the amount of every CS type and cross-tabulating the results, we will succeed to draw the significance of every type in connection to gender. In the light of the theoretical background on SMS and gender, we can argue that one of the major expectations of the results maybe that females might outperform their male counterparts in the number of code switches at the *Intrasentential*level more than at the *Extrasentential*level. Females were reported as being prone to SMS writing and the use of language alternation can denote a high degree of language command that females consciously or unconsciously aim at demonstrating.

As far as the second question is concerned, that is: *Do female English student texters differ from male English student texters in their language choice? If yes, how?,*the different language options and combinations are set in categories, and every category is counted according to the number of occurrence in the messages. The frequency of every category accounts for the languages preferred and used by each group and the results are cross-tabulated to help answer our research question properly.

4. Results and Discussion

As previously mentioned, the corpus content is analyzed regarding two features: the number of *Intrasentential*CSand *Extrasentential*CS types and the languages used to switch when messaging. Any other CS configurations will be reported and interpreted as well. It is worth noting at this point that the calculation of the amount of the two types of CS and languages choice will be carried out in regard to gender in order to draw possible correlations or differences between the two groups. Besides and given the exploratory nature of our study, any salient aspects that may emerge while analyzing our data will be reported and interpreted accordingly.

Throughout the messages corpus examination, the data show the co-existence of two different patterns of CS. In the first one, a total code switching to "one language only" is notably used by the participants, that is to say, messages written exclusively in one language namely English and French. 19 (out of 60) observed messages are written in "English only" by females and 18 messages by males. For the use of "French only" language in messages, 16 messages (out of 60) are observed among females and only 9 messages among males. The 59 remaining messages are the ones that contain a mixture of different languages as illustrated in the second pattern.

The second pattern consists of the use of *Intrasentential*code switching *type*where simple or complex grammatical constituents such as complete sentences, single nouns, single verbs, conjunctions are mixed up and simultaneously used; constituents from French, English, Non-standard Arabic, Standard Arabic and Berber languages. As a reminder, the two first patterns that are 1) the complete switch to one language only and 2) the use of a mixture of constituents from different languages, are considered in this study as parts of the *Intrasentential*CS type occurring in the 120 messages collected. The following examples are illustrations of the two patterns:

Pattern 1: The *"One Language Only"* messages which are free of any other switching or mixing of other languages as in these examples:

Ex 1: Wash rakikhalti. Rakidaymen f lbal. *(How are you aunt. You are always in my mind)*

Ex 2: How was the day guys?

Ex 3: Hi Rima what's up, please bring me brit civ lessons. Thanks, see you

Pattern 2: The use of two, three or sometimes four languages in the same message including sentences and isolated lexical items as shown in the following examples:

*Ex 1:**SltHanouna, tu me manque grave ma belle sœur**,nchalah tkouni mliha, matensaycht9oliliwintatjiledarbachnatlakaw, ok, **je t'aime bokou, bisou***

*Ex 2:**Bonjour mama, comment va tu? bonfête, tu es tout pour moi**. Rabi ykhalik lina**, je t'aime très fort.***

*Ex 3:**Salut, j'espere que tu aurais un avis favorable a ta demande**. **Take care of yourself. a+***

4.1On the whole, the observed number of IntrasententialCS type's occurrences and distribution are presented in the following table:

Table 1:

Intrasentential code switching type number according to Gender

Gender	TN of CS	ON of ISCS	Percentage (%)
Male	274	113	41. 24%
Female	274	160	58. 39%

TN= Total number   ON= Observed number   ISCS= Intrasentential Code switching

The results reveal that *Intrasentential*CS type*,* including either the recourse to "one language only" pattern or a mixture of several languages pattern, is more frequent among females than males. The reported number of **274** that refers to the total number of both males and females recourse to *Intrasentential*switching helped determine the share of every gender. There are, therefore, **160** observed code switches that are **58. 39%** for females*,* and 113 switches that represent **41. 24%,** for males. In sum, the findings reveal that females outperform their male counterparts in this type of CS.

Concerning *Extrasentential*type's occurrences and distribution, the results obtained are presented in table 2:

Table 2:

Extrasentential code switching type number according to Gender

Gender	TN of CS	ON of ESCS	Percentage (%)
Male	274	00	0. 00%
Female	274	00	0. 00%

TN= Total number   ON= Observed number   ESCS= Intrasentential Code switching

As noted in the table above, *Extrasentential*s witching type is inexistent in females and males messages. Broadly, the results show similarities between the two groups not using *Extrasentential* CS type while texting. This absence of interjections, exclamations or idiomatic expressions in participants' messages is probably due to the fact that these language features may pertain to the spontaneous speech mode of interaction where simultaneous reactions or comments come as a natural act of oral communication. According to these results, texting seems to operate differently maybe because of the artificial and asynchronous nature of messages. People send messages and the reactions to these messages can come simultaneously or days after, a thing that may alter the spontaneity of the answers and as a consequence may result in a more reflective type of writing which is specific to SMS writing mode.

Henceforth, and in an endeavour to compare the two types of CS results, the following table is presented:

Table 3:

Intrasentential code switching number vs. Extrasentential code switching number: Cross-tabulation of results according to Gender

Gender	ON of ISCS	ON of ESCS
Male	*113*	*00*
Female	*160*	*00*

When examining both code switching types as demonstrated in the table above, the most frequent type of switching occurring in messages is *Intrasentential*CS typewith a higher number obtained by the female group. This type of CS, as suggested by Poplack (1980), involves the switch at the sentence level and above. By above, we can understand the move from one language to another with no mixing occurrences at all, as it is the case in many messages found in the corpus. To some scholars (Poplack, 1980; Myers-Scotten, 1995), this ability to switch at the level of sentences is a good demonstration of bilinguals, in our case, multilinguals' language proficiency and capacity to handle languages in a very proficient way. *Intrasentential* CS type is present also within sentences and this occurs in the middle of sentences. In this study, SMS users, either in females or males' groups, switch to one, two or three languages to end up with messages that enclose three to four languages concurrently. In sum, the results helped to answer the first research question by concluding that females use a more *Intrasentential* type of CS but use the *Extrasentential* type in a very similar way. Therefore, we can argue here for the existence of both differences and similarities in male and female texting behaviours.

As far as language use in messaging is concerned, the second question "*Do female English student texters differ from male English student texters in their language choice?* is articulated to look into male and female students' language preferences while texting. To achieve this aim, we have proceeded by counting down the number of times texters used a given language. The examination of messages has helped to set a number of patterns or instances that we have called categories. Subsequently, twelve (12) categories have been reported along with the number of frequency for each category in connection to gender as demonstrated in the following table:

Table 4:
Languages used in SMS messaging by Gender

	Gender		
Language Choice Categories	*Male*	*Female*	*Total*
1.English only	**17**	**19**	**36**
2.French only	**09**	**16**	**25**
3.Non-standard Arabic+ French	**12**	**10**	**22**
4.Non-standard Arabic only	05	02	07
5.French+ English	03	04	07
6.Non-standard Arabic + English	04	02	06
7.Non-standard Arabic+ French + English	00	02	02
8.Non-standard Arabic+ French + Berber	01	01	02
9.Non-standard Arabic+ French + English+ Berber	00	01	01
10. Non-standard Arabic+ Standard Arabic +French + English	01	00	01
11. Berber+ French	01	00	01
12. French+ English+ Berber	00	01	01

We can clearly see from the data that the respondents switch to "English only" (36 times) more than any other language. The reason might be because the data is taken from English

department students who are familiar and comfortable with the language. This use is noticed in both males (17) and females' groups (19) that help to conclude that there are no significant gender differences at this level. Therefore, the language repertoire which is most often used in messages among our participants is the English language. The second most used language is "French only" with (25 times). The familiarity with French as a well-implemented language in the Algerian environment seems to be preferred to Non-standard Arabic by both males and females participants in this study.

   As far as gender differences are concerned, French seems to be used mostly by girls (16) when compared to boys (09). The third language used by students is a mixture of Non-standard Arabic and French (22 messages) with a slight difference between males (10 messages) and females (12 messages). Most of the other languages are rarely used in SMS texting as shown in the table above. In this ultimate vein, it is worth mentioning that whatever language used in SMS messaging, the issue of language choice is far more complex than it seems. In fact, using one particular language or more, may be explained by providing possible reasons such as good command of a language, the prestigious dimension of the language, real lexical need, group identity expression by signaling group membership and solidarity with the addressee, but this is still building on arguments that can rightly or wrongly fit the issue of language choice and switching in our particular case.

   As noted previously, this study is an exploratory case study whereby all interesting features should be highlighted to cover the topic satisfactorily and accurately. Indeed, while examining the corpus, one interesting observation in the course of investigation has concerned the use of languages within gender itself. In fact, we have been very surprised to notice that significant differences exist between the participants of the same gender who speak different mother tongues and between males and females speaking the same mother tongue. A comparison between males and females speaking the same mother tongue that is to say Non-standard Arabic shows that males are prone to use "English only" language (13 Messages for males and 11 for females) in addition to Non-standard Arabic and French with 12 messages for males and 08 for females. A few references to "Non-standard Arabic Only" language are observed among males and females with 04 messages for males and only 01 message for females, as shown in the following table:

Table 5:

Language use according to Matrix Language Variable: Non-standard Arabic Speaking Participants

	Gender		
Language Choice Categories	*Arab male*	*Arab female*	*Total*
1.English only	**13**	**11**	**24**
2.Non-standard Arabic+ French	**12**	**08**	**20**
3.Non-standard Arabic only	**04**	**01**	**05**
4.Non-standard Arabic + English	03	02	05
5.French only	01	03	04
6.Non-standard Arabic+ French + English	00	02	02
7.French+ English	00	02	02
8.Non-standard Arabic+ Standard Arabic +French + English	01	00	01

   Following the same approach, Berber speaking participants have been divided into males and females groups and the analysis of data has shown contrary results when compared to Non-standard Arabic speakers. In fact, Berber females tend to use more "French only" language (13 messages for females in contrast to 08 messages for males), the second language used is English and even when using this language, gender differences are noticed. Females use English much more than males with 08 messages for females and 05 for males. Non-standard Arabic is also used at a third position with males surpassing females with 05 messages for males and 02 for females as shown in the following table:

Table 6:

Language use according to Matrix Language Variable: Berber Participants

| | Gender | | |
	Berber male	Berber female	Total
1.French only	**08**	**13**	**21**
2.English only	**05**	**08**	**13**
3.Non-standard Arabic+ French	**05**	**02**	**07**
4.French+ English	03	02	05
5.Non-standard Arabic only	01	01	02
6.Non-standard Arabic+ French + Berber	01	01	02
7.Non-standard Arabic + English	01	00	01
8.Non-standard Arabic+ French + English+ Berber	00	01	01
9.Berber+ French	01	00	01
10. French+ English+ Berber	00	01	01

Interestingly enough, Berber language, which is the participants' mother tongue, is rarely used in SMS messages. No messages are reported when dealing with "Berber only" language whereas 02 messages containing Berber, French and Non-standard Arabic, 01 message for males and 01 for females are observed in addition to 01 message that contains both Berber and French which belongs to males group.

A third salient observation which deemed worth reporting deals with the differences that occur within the same gender. Indeed while examining gender differences in relation to mother tongue, many differences have emerged within the males group and the females group and within the same gender.

Table 7:

Language use according to Matrix Language Variable: Cross- tabulation of Results of Berber and Non-standard Arabic speaking Participants.

| | Gender | | | | | |
Language choice	Arab male	Berber male	Total Number	Arab female	Berber female	Total Number
1.English only	**13**	**05**	**18**	**11**	**08**	**19**
2.French only	**01**	**08**	**09**	**03**	**13**	**16**
3.Non-standard Arabic+ French	**07**	**05**	**12**	**08**	**02**	**10**
4.French+ English	00	03	**03**	02	02	**04**
5.Non-standard Arabic only	04	01	**05**	01	01	**02**
6.Non-standard Arabic + English	03	01	**04**	02	00	**02**
7.Non-standard Arabic+ French + English	00	00	**00**	02	00	**02**
8.Non-standard Arabic+ French + Berber	00	01	**01**	00	01	**01**
9.Non-standard Arabic+ French + English+ Berber	00	00	**00**	00	01	**01**
French+ English+ Berber	00	00	**00**	00	01	**01**
Berber+ French	00	01	**01**	00	00	**00**
Non-standard Arabic+ Standard Arabic +French + English	01	00	**01**	00	00	**00**

As demonstrated in the table below, males and females similarly switch to English first, then to French and at the third position to a combination of Non-standard Arabic and French. Nonetheless, when looking carefully, we can notice that even when using English, Arabic speaking males (13 messages) outpass Berber males (05 messages), whom themselves are surpassed by Arabic speaking females (11 messages) and Berber females (08 messages). This is may be due to the position of English as a language of instruction that Arabic speaking boys and girls feel confident to use while interacting in general and in SMS writing in particular.

Moreover, English when compared to French, seems to be culturally closer than French to Arabic speaking texters, which is, in turn, closer to Berber speakers due to historical and socio-cultural reasons. The implementation of the French colonizer in some regions of Algeria, mainly in Kabylie, was followed by the building of schools to teach French language to the natives. The accepted co-existence of both French and Berber could have an important role in tightening the relations between Berber and French while the socio-cultural distance has probably kept the French as a language of the colonizer for Arabic speakers in general.

This possible argument may explain the fact that the second preferred language used in SMS writing is the French language. As we can notice, French is mostly used by Berber participants, with 13 messages for females and 08 for males, when compared to Non-standard Arabic speakers, with 03 for females and 01 for males. Broadly, females outperform their male counterparts in the use of French, but the Berber males surpass the Non-standard Arabic female texters. Therefore, arguments for language superiority which is demonstrated by females as a symbolic attempt to gain status (Labov, 1990; Trudgill, 1974, 1998; Eckert, 1989) can be partly right when we know that even linguistic and socio-cultural factors can have a significant role to play in language use and choice, as shown by the results obtained in this study.

Additionally, the examination of "Non-standard Arabic only" use and "Berber only" use shows that exceptionally few messages are written in these two languages. Both males and females use a mixture of both Non-standard Arabic and French to convey meaning, much more than "Non-standard Arabic only" or "Berber only" languages. This may be due to SMS texting keypad requirements of using Latin characters that favours the use of standard languages such as French and English, instead of Non-standard ones. This is on the one hand.

On the other hand, writing with high varieties of language may consciously or unconsciously be overvalued more than low varieties such as Non-standard Arabic or Berber. Hence, using these varieties may mean belonging to the lower class of uneducated people. Thus, and because of the social status of students as educated people, these latter might wish to display and signal this position via language choice by opting for more standard languages to express their social identity.

As a consequence, the findings come to support Sridhar (1996) arguments concerning the distribution of languages in multilingual contexts where differences are highlighted in terms of functionality and context. In fact, all the languages in the repertoire of a multilingual are not equally distributed in terms of power, prestige, vitality or attitude and where some languages are more valued than others (Sridhar, 1996). This can be justified by the number of roles played by any language as supported by Sridhar who claimed that the position of a given language on a hierarchy is determined by power or prestige or attitude but for very pragmatic considerations.

In this particular case, English serves as a medium of instruction at the department of English of the University of Algiers, and eventually, as a link with the civilized world that reflects modern knowledge, science, technology, international commerce and western culture but most importantly educational success. Similarly, French is lifted up to the top of the hierarchy in conversational settings because of the wide range of roles it plays in the media, literature, commerce and administration when compared to the rest of the existing languages. Evidently, every multilingual develop competence in each of the codes depending also on their psychological needs and the context in which each language is used. Code switching in multilingual contexts is again clearly related to the functional and pragmatic considerations

that are closely linked to language and context, which obviously exist in both face to face and SMS interactions.

5. Conclusion

This paper raised out of a felt need to understand digital language mechanisms by examining a corpus of SMS messages used as a new medium of communication among multilingual subjects, represented by Algerian advanced students of English. While most approaches to SMS focalized on messaging in monolingual and bilingual linguistic contexts, this study aimed to examine texting behaviors in a multilingual environment where more than three languages are used.

The study goal, therefore, was to focus on CS types and language uses in SMS texting and disclose possible differences and similarities in male and female texting practices. Significantly, the study showed gender differences in code switching types with females using *Intrasentential* type more than males. Similarities are also pointed out by revealing the use of *Extrasentential* type in the same way by both groups. As far as language use is concerned, the dominating use of English, French and a mixture of Non-standard Arabic and French by both male and female texters was reported. Likely, male and female students used English with almost the same amounts of messages. French was reported as the second most used language that was followed by a mixture of Non-standard Arabic and French which represented the students' third choice.

However, the study found gender differences among the two groups that showed females extensive use of the French language when compared to male texters. In addition, very rare exclusive references to Non-standard Arabic or Berber were made in this study. When discussing these findings, we argued that these linguistic choices were due, in part, to the fact that our participants were advanced students of English who felt comfortable with English that they produced naturally. The use of this language, therefore, became natural and evident, mainly when we know that it remained one of the best representations of their social identities as English students belonging to the educated category of people. French, which was mostly used by females, seemed to be more popular among Berber speakers, be they males or females as demonstrated in a closer examination of the results. In fact, while analyzing the data, we were triggered by the fact that mother tongue variable and socio-cultural aspects could have an important impact on language choice.

By examining Intra-gender differences, we found that both female and male Arabic speakers out passed their Berber speaking peers in the use of English. In addition, both male and female Berber speakers outperformed Arabic male and female speakers in their use of French language. Concerning the use of Non-standard Arabic and the French language, the analysis showed that Arabic speaking boys and girls are the ones who mostly use that particular option, far more than male and female Berber speaking texters. The very rare occurrences of Non-standard Arabic were observed among Arabic speaking boys, far more than their Arabic female peers or male and female Berber speaking ones.

Conclusively, by studying SMS texting from sociolinguistic and structural perspectives concurrently, we have been able to shed new light on messaging practices in connection to code switching and gender. By so doing, we have demonstrated that language use within the same social group can lead to different but sometimes related structural outcomes which, in turn, give rise to different switching and language uses. Nonetheless, further studies are needed to validate these findings by using a larger sample size, with subjects from different social backgrounds, different age ranges and cultural backgrounds.

Besides, varying tools and methodologies is vital to capture the incredible ability of texters to tailor their languages, their CS types' uses and composing styles while messaging. And because of the complex nature of SMS texting, a lot of benefits can be gained by using highly elaborated questionnaires, interviews and large corpora that are sustained by quantitative and mixed methodologies to bring more grounded arguments to validate research results and eventually unveil the nature of SMS texting, in general, and SMS texting in Algeria, in particular.

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Appendix

The Questionnaire sample

Dear participant,
This questionnaire is part of a research project I am conducting on SMS texting among young college students and their languages use. I appreciate you taking time to fill this questionnaire as honestly and frankly as possible. The information you provide will be of great help and importance to answer my research question. The information enclosed in this questionnaire will remain anonymous and confidential; will only be used for research purposes. Thank you in advance.

I. Identification questions
1. Sex:
□ Male
□ Female
2. Age: …………………………..
3. Mother tongue:
□ Arabic
□ Berber
□ Other, please specify:………………………………………………
4. Second language:
□ French
□ English
□ Other:………………………………………………….
5. What languages do you speak? (You can tick more than one box)
□ Non-standard Arabic
□ Standard Arabic
□ French
□ English
□ Berber
□ Other, please specify:……………………………………………………………
II. SMS Messaging and Languages use
1. Which language (or languages) do you prefer using when writing messages? (you can tick more than one box)
□ Non-standard Arabic, please say why ……………
□ Standard Arabic, please say why …………………
□ French, please say why ………………………
□ English, please say why ………………………
□ Berber, please say why …………………………
□ Other, please specify and say why …………………………
2. Do you mix languages when you use messages?
□ Yes, please say why……………………………
□ No, please say why…………………………………………
3. What are the languages you mix? (You can tick more than one box)
□Non-standard Arabic and Standard Arabic, please say why**...............................**
□Non-standard Arabic and French**...**
□Non-standard Arabic and English**...**
□Non-standard Arabic and Berber………………………….......
□Other, please specify..................................
4. Why do you think people mix languages in messages?..
5. Why do you think students use French in their SMS?...

6. Why do you think students use English in their SMS?..

7. What does French represent to you?...

8. What does English represent to you?...