

## A Sociolinguistic Analysis of Mobile Phone Text Messages in Algeria

Chikhaoui, Hichour Hadjira\*

Assistant Teacher, English department, Faculty of Letters, languages and Art, Dr. Moulay Tahar University, Saida-Algeria

\*Corresponding author  
Chikhaoui, Hichour Hadjira

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**Abstract:** This study aimed at investigating and analyzing languages used in mobile phone text messages by Algerians from the north-west of Algeria and the influence of demographic variables in language choice. A questionnaire was adopted to answer the two questions of the study. The subjects were 100 participants from three cities of the north-west of Algeria (Oran, Mostaganem and Saida). In addition, 79 SMS text messages were gathered. The data were analyzed both quantitatively and qualitatively. The findings of the study indicate that language mixing between Arabic and French is the variety most used by Algerian texters from the north-west of Algeria, besides, in texting language choice in SMS messages varied according to the mother language of texters.

**Keywords:** Mobile phone, text messages, language, Algeria.

### INTRODUCTION

Long-distance communication plays a great role in creating various forms of contact between people in society. It was first born with Morse Telegraph in 1840, and with the invention of the telephone by Alexander Graham Bell in 1876. It has currently experienced undeniable advances thanks to the access of mobile phone multimedia. The mobile phone is one of the most effective, convenient and widely spread technological instruments used for communication globally.

BBC news provides the number of mobile phone subscribers, about 6.8 billion mobile subscriptions in the world, as estimated by the International Telecommunication Union (ITU) in February 2013; that is equivalent to 96% of the world population which is 7.1 billion, according to the ITU 2013, this is considered a huge increase compared to 6.0 billion mobile subscribers in 2011 and 5.4 billion ones in 2010.

Nowadays, mobile phones are multifunctional devices. "Mobile phones may be used for making purchases from vending machines, paying tax bills, pointing the way towards Mecca, inciting rites or accessing mobile news" [1]. However, they are primarily employed for communication, most often for talking or doing text messaging. Mobiles have facilitated a life style for being "always on" [2], meaning that people have the technological capacity for being available to potential interlocutors by sending messages, photos and jokes via mobile telephones, because it is the simplest, cheapest and fastest way to communicate.

Short message service (SMS) concept was developed in the Franco-German Groupe Special Mobile (GSM) cooperation in 1984 by Fried Hillebrand and Bernard Ghillebaert. He adds that the first SMS

sent was on 3 December 1992 over the Vodafone GSM network in the United Kingdom from communication companies around the world have witnessed the increasing use of text messages by users compared to direct voice calls, and this does not include e-mail messages or networking sites but text messages sent from mobile phones [3]. It's estimated by the International Telecommunications Union that nearly 200,000 text messages are sent every single second".

These SMSs or text messages provide literal representation of the way that people speak. Space limitation of the SMS exerted a strong influence on the language found in SMS text messages, ranging from ellipticality of distinct kinds, acronyms specific to the medium and shortening of various grammatical forms. In writing the SMS messages, the users use a special variety of language in which they do not take care of the grammar of their language and they depend on using abbreviations and emoticons -textual portrayals of a writer's mood or facial expression in the form of icons-symbols like to express opinions and feelings. This language, with its own vocabulary, spelling, syntactic and semantic systems, is called Computer-Mediated Communication (CMC) that was defined as "an electronic way to exchange information between two or more persons via the computer" [4].

### **SMS Expansion in the Arab World and Algeria**

The Arab region represents one of the fastest growing mobile phone markets in the world [5]. Mobile communication access has expanded rapidly in the region in recent years, catching up to the levels of developed countries. Arab advisors group 2012 assert that the number of mobile cellular subscriptions has almost tripled from 2006 to the end of 2011, from 126 million to 350 million. By the end of 2011, mobile cellular penetration in the Arab countries was at 97% people of the population, 19 points higher than that of the world average. In comparison, Asia/Pacific was at 74%, and sub-Saharan Africa at 53%, while the Commonwealth of Independent States lead at 143%, followed by Europe at 120% and America at 103%.

Taking the example of Algeria, this country is one of the Arab countries that have witnessed the expansion of mobile phones. The chief executive officer of Algeria Telecom maintains that a total of 35,228,893 mobile phone subscribers have been registered until November 2011 (Algerian's population stood at 37 million people). He goes on to say that "Algeria Telecom with its three communication companies is committed to provide the subscribers with high-quality, low-cost solutions, and enable them to stay connected with family and friends on a global basis" [6].

Maghreb daily 2012 indicates that mobile operators Orascom Telecom Algeria, Djezzy (OTA) and Mobilis Algeria Telecom, the public (ATM), have the lead in market share, followed by Watania Telecom Algeria, Ooredoo (WTA) number of subscribers. Djezzy held 46.81% of these shares in 2011 with 16,490,690 subscribers followed by 29.18% held by Mobilis with 10,280,098 subscribers and then Ooredoo, the phone operator which held 24.01% with 8,458,105 subscribers [7].

### **The Linguistic Situation in Algeria**

The interplay of languages has always aroused the interest of linguists. Algeria is a diglossic and bilingual speech community. Diglossia is defined as "a situation usually described as consisting of two varieties of the same language, each of which has clearly a defined function" [8]. In Algeria, the high variety, i.e. Classical Arabic, is used in formal settings such as public speaking, religious texts, education and other prestigious contexts, whereas the low variety, dialectal or Algerian Arabic, is reserved for use in more informal and relaxed situations such as at home and in cafés [9].

Furthermore, in Algeria the French language goes with Arabic and is mainly regarded as an important medium of communication. It is inevitably used as a functional instrument in all the spheres of public life, namely in the administration, government and the mass media, besides displaying the social status of the speaker. This led the Algerians to be bilingual, in so intricate linguistic situation that the Algerians might

speaking two minutes in French, thirty seconds in Arabic then one minute in French and so on. The Algerian bilingualism materialised as a result of the long and gradual occupation of the whole country by the French (1830-1962). Though Algeria is a bilingual speech community, we may find monolinguals in some parts of Algeria, for example, the Touareg tribes in the Sahara of Algeria who speak only the Tamazight language [10].

Stressing the fact that Algeria is a bilingual speech community, bilingualism is defined as "the ability to use more than one language by an individual or a community" [11]. In Algeria, some people speak French, Tamazight and /or Spanish in addition to the use of English especially in the written form notably, SMS. Multilingualism takes place in some parts of Algeria where the major Berber groups (the Kabyles) use Berber as their mother tongue beside Arabic and French as second languages. The Berber or Tamazight language has been able to survive because of its capacity to borrow words from other languages. It has succeeded in resisting invaders' linguistic influences and has maintained itself as the mother tongue of Berbers. It is spoken in the Kabylie mountains in the east of Algiers, the Chaouia of Aures range to the south of Constantine and in the south of Algeria where some smaller groups are found such as the Mزاب and the Tuaregs.

In the north-west of Algeria, the Spanish presence is historically and linguistically clearly attested particularly in the coastal areas which were known as the commercial route for the Spanish sea-traders. As it developed, the Spanish presence triggered a fertile process of lexical borrowing that pervaded the vernacular [11].

At the micro-sociolinguistic level, the Algerian speakers may use and eventually switch between two or more languages namely, dialectal Arabic, Standard Arabic, French, Berber, Spanish (for the west) and the English language which is taught from middle schools till university with varying doses. The English language experienced an expansion with the introduction of communication means, depending on non-linguistic factors such as the speaker's age, intelligence, communicative competence in various codes, and attitudes towards different languages. Seemingly, the existence of varieties of languages would reflect to a great extent the sociolinguistic richness and diversity of such country especially at the level of computer mediated communication, notably SMS language.

### **Statement of the problem**

The present study is an attempt to investigate the languages used most in SMS via mobile phones in the north-west of Algeria where at least five unrelated languages are used: Arabic (high and low variety), French, Spanish, and Berber (for those Berberian

minorities who live in the west and still use their language), in addition to English which is taught at schools.

**Purpose of the Study**

This study aims to examine and evaluate the language of mobile phone SMS in the north-west of Algeria in order to bring out its linguistic and cultural specificities. From the assumption that language varies in relation to its different users, this work sets out to investigate how texters from Algeria have succeeded in reinventing conventional linguistic forms to communicate. Within these aspects, the study investigates the following: the languages used in Algerian SMSs and the effects of demographic variables in language choice.

**Questions of the Study**

- What are the languages most used in mobile phone SMSs in the north-west of Algeria?
- Are there significant relationships at  $\alpha=0.05$  between language choice and demographic variables (gender, age, level of education and mother tongue)?

**METHODS AND PROCEDURES**

This research is characterized by the application of both the quantitative as well as the qualitative research methods by means of analyzing the responses of the informants.

**Population of the Study**

The research population consists of two different types:

- Algerian texters from the north-west of Algeria.
- SMS message texts taken from the mobile phones of the participants.

**Sample of the Study**

The sample of the study includes the following:

A selection of 41 male and 59 female participants from three cities of the north-west of Algeria, namely, Oran, Mostaganem and Saida. The number of the participants from each city was as the following: 40 from Oran, 30 from Mostaganem and 30 from Saida).

Table-1 presents the distribution of the sample according to gender (male, female), age (15-30, 31-45, 46-60) and level of education (primary school, middle school, secondary school, university) variables:

**Table-1: Distribution of the sample according to demographic characteristics variables**

Variable	Categories	Percent
Gender	Male	41%
	Female	59%
	<b>Total</b>	<b>100%</b>
Age	15 – 30	70%
	31 – 45	18%
	46 – 60	12%
	<b>Total</b>	<b>100%</b>
Level of education	Primary school	10%
	Middle school	11%
	Secondary school	23%
	University	56%
	<b>Total</b>	<b>100%</b>

Table-2 presents the distribution of the sample according to mother tongue variable

**Table-2: Distribution of the sample according to mother tongue variable.**

Categories	Percent
Arabic	86.0
Tamazight	13.0
French	1.0
Total	100.0

A sample of 79 SMS text messages taken from the mobile phones of the participants is analyzed.

**Instruments of the Study**

This study used a questionnaire divided into three sections:

- In the first section, the researcher collected demographic information about the participants' age, gender, level of education and mother tongue.
- In the second section, 14 items were used to measure the participants' attitudes towards using mixing languages.
- In the third section, the researcher asked the participants to rewrite one of the SMSs sent or received by their mobile phones.

**Procedures of the Study**

The following procedures are carried out to collect and analyze data of the study:

- The distribution of the questionnaire by the researcher herself in the three mentioned cities. The researcher asked the participants to answer immediately. All the questionnaires were answered and returned immediately. The participants answered all the first two sections of the questionnaire. However, the third section asking about rewriting a text message was not filled out by all the participants; 5 participants did not usually use the SMS and 16 others refused to rewrite one of their SMSs considering it as personal.
- Analyzing data both quantitatively and qualitatively.
- Discussing data in relation to relevant studies.

**Variables of the Study**

This study includes two types of variables:

**The Independent Variables**

These variables refer to the respondents to the research questionnaire and include:

- Gender with two levels: Male and Female.
- Age with three levels: 15-30 years, 31-45 years and 46-60 years.
- Qualifications with four levels: Primary school, middle school, secondary school and university.

**The Dependent Variables**

The dependent variable in this study is the participants' mother language with three levels: 86 participants have the Dialectal Arabic as a mother tongue, 13 participants have Tamazight as a mother tongue, they live in this area for commercial reasons, and only one participant speaks the French language as a mother tongue since she was born in France to a French mother and Algerian father; she moved to Algeria after 9 years of birth for educational reasons.

**Data Analysis**

The data is analyzed as follows:

- The first questions of the questionnaire are analyzed with a statistical process SPSS V.11.5 to reveal the findings of the questionnaire.
- The third question is analyzed with adopting the  $X^2$  test to measure the differences between the levels of the one variable.

**FINDINGS, RESULTS AND DISCUSSION**

The first question is: "What are the languages most used in mobile phone SMS in the north-west of Algeria?"

To answer this question, the researcher analyzed the first two items of the second section of the questionnaire. The frequencies of the languages used were handled as follows:

The frequency of the languages used in SMS text messages under study is calculated. The results of this analysis are presented in Table-3.

**Table-3: Frequency and percentage of languages used**

Category of Language	Percentage
Arabic only	05%
French only	30%
Tamazight only	11%
English only	09%
Spanish only	00%
Mixture of languages	89%

Note that the number of responses exceeds the number of participants because they could choose more than one language. Table-3 shows the following results:

- The mixture of languages is the most prominent in texting via SMS with 89% out of 100%.
- The Spanish language is no more used in the SMS text messages as one language only.
- The French language is the only language used by 30% out of 100% of the participants as one language.

- The Arabic, Tamazight and English languages are used with lower percentages in the SMSes. Arabic is used with 5%, Tamazight with 11% and English with 9%.

Participants, who chose "mixture of languages" in the first question, were asked to specify which languages they mixed. The frequencies of the mixed languages under study were calculated. Table 4 presents the results of this analysis:

**Table-4: Frequency and percentage for the most mixed languages used.**

Category of Mixed Languages	Percentage
Arabic & French	89%
Arabic, French & Tamazight	17%
Arabic, French & Spanish	21%
Arabic, French, Spanish & Tamazight	02%
Arabic, French & English	42%
Arabic, French, Tamazight & English	14%
Arabic, French, English & Spanish	19%
Arabic, Tamazight, French and English & Spanish	16%

Table-4 shows the following results:

- The most prominent type of mixing used, is mixing between Arabic and French with 89%.
- Switching between Arabic, French, Spanish and Tamazight occurred with a very low percentage of 2%.
- Mixing between Arabic, French and English is used with 42%, an interesting percentage which means that English is prevailing now in Algerian communication.
- Mixing in which the Spanish and Tamazight languages are present, occurred with a low percentage.

The findings reveal that five languages are used in the north-west of Algeria: Algerian Arabic, French, Tamazight, English and Spanish. In SMS texts, these languages are not used independently, they are used in a mixed way.

Code mixing between Algerian Arabic and the French language is the code most used followed by mixing between Arabic, French and English in

communication especially among younger people. However, code mixing in which Spanish and Tamazight exist is rarely used since Tamazight is not spoken in this area except for Berber minorities who moved to this area for commercial reasons.

The second question is: “Are there statistically significant relationships at  $\alpha=0.05$  between language choice and demographic variables (gender, age, level of education and the mother tongue)?”

To answer this question, a relationship between the results of the third question (see appendix A) and the demographic variables mentioned above was calculated by using  $X^2$  test of independence to find out the significance of the differences at  $\alpha=0.05$ .

**The Relationship between Language Choice and Age:**

Table-5 presents the results of the analysis of age and language choice which was the results of the responses to question number 3 of the questionnaire.

**Table-5: Results of  $X^2$  test of independence regarding age of the participants.**

Age Categories	$X^2$	Language Use				
		Arabic only	French only	Tamazight only	English only	Mixture of language
15 – 30	14.174 by sig 0.077	0.7%	11.8%	4.9%	4.2%	46.5%
31 – 45		1.4%	4.9%	0.7%	0.7%	11.1%
46 – 60		1.4%	4.2%	2.1%	1.4%	4.2%

Table-5 shows the results related to the age variable as follow:

- The highest percent of total SMS use of languages due to age reached 68.1% for (15 – 30) category favor of mixture of language 46.5%.
- The lowest percent of total SMS use of languages due to age reached 13.2% for (46 - 60) category in favor of Arabic and English languages 1.4%.

- $X^2$  value reached 14.174 by significant 0.077.

**The Relationship between Language Choice and Gender:**

Table-6 presents the results of the association between language choice and gender.

**Table-6: Results of  $X^2$  test of independence regarding gender of the participants.**

Gender Categories	$X^2$	Language Use				
		Arabic only	French only	Tamazight only	English only	Mixture of language
Male	2.246 by sig (0.619)	1.4%	5.6%	2.1%	1.4%	24.3%
Female		2.1%	15.3%	5.6%	4.9%	37.5%



Table-6 shows the results as follows:

- The highest percent of total SMS languages using due to gender favor of mixture of language for female 37.5% but for male 24.3%.
- the lowest percent of total SMS languages using due to gender to favor of male in Arabic and English languages 1.4%.

- $X^2$  value reached 2.246 by significant 0.619

**The Relationship between Language Choice and Level of Education of the Participants:**

Table-7 presents the results of the association analysis between language choice and the level of education of the participants:

**Table-7: Results of  $X^2$  test of independence regarding level of education of the participants.**

Level of Education Categories	$X^2$	Language Use				
		Arabic only	French only	Tamazight only	English only	Mixture of language
Primary school	20.247	0.7%	3.5%	0.7%	1.4%	3.5%
Middle school	by sig 0.063	2.1%	2.8%	1.4%	0.7%	6.3%
Secondary school		0.0%	2.1%	0.7%	0.7%	15.3%
University		0.7%	12.5%	4.9%	3.5%	36.8%

Table-7 shows the results related to this variable as follows:

- The highest percent of total SMS languages using due to level of education reached 58.3% for university category in favor of mixture of language 36.8%.
- The lowest percent of total SMS languages using due to level of education reached 9.7% for primary

school category in favor of Arabic and Tamazight languages 0.7%.

- $X^2$  value reached 20.247 by  $a = 0.063$ .

**The Relationship between Language Choice and Mother Tongue of the Participants:**

Table-8 presents the results of the association between language choice and the mother tongue of the participants.

**Table-8: Results of  $X^2$  test of independence regarding mother tongue of the participants.**

Language Categories	$X^2$	Language Use				
		Arabic only	French only	Tamazight only	English only	Mixture of language
Arabic	38.271	2.8%	13.2%	52.8%	0.7%	3.5%
Tamazight	by sig	0.7%	6.9%	8.3%	6.9%	2.1%
French	0.000	0.0%	0.7%	0.7%	0.0%	0.7%

Table-8 shows the results related to this variable as follows:

- The highest percent of total SMS languages using due to the mother language reached 72.9% for Arabic category in favor of mixture of language 52.8%.
- The lowest percent of total SMS languages using due to the mother language reached 2.1% for French category in favor of Arabic and Tamazight languages 0.0%.
- $X^2$  value reached 38.271 by  $a = 0.000$ ; this shows there are statistical differences in SMS languages use due to the mother language.

significant 0.619 which is not equal or less than 0.05. Therefore, results indicate that there are no statistical differences in language choice with regard to gender. The same for the level of education variable, in which  $X^2$  value reached 20.247 by  $a = 0.063$  that is less than  $a=0.05$ . However, there are differences in language choice according to mother tongue since  $X^2$  value reached 38.271 by  $a = 0.000$  which is less than (0.05).

To sum up, out of the four variables handled in this study, only one variable which is the mother tongue of participants influenced the language choice of SMS text messages.

**CONCLUSION**

The present study arrives at the following conclusions:

The emergence of mobiles in Algeria is associated with the creation of a new language variety, which is a mixture of French, Arabic, English and some Spanish words which already exist in the Algerian dialect of the north-west of this area, in addition to Tamazight expressions that Berber participants could

The findings of the  $X^2$  test reveal that there are no statistical differences in SMS language choice due to age variable. Since  $a = 0.05$  and  $X^2$  value reached 14.174 by  $a = 0.077$  which is not equal to or less than (0.05). Thus, age has no influence on the language choice.

Similarly, gender in this study does not influence language choice.  $X^2$  value reached 2.246 by

not get rid of even when texting non-Berber interlocutors. Furthermore, out of four demographic variables (age, gender, level of education and mother tongue), only the latter one, mother tongue, has influence upon language choice when texting. . In the light of the findings of the study, it was recommended that future researchers deal with other topics investigating languages in this area that is rich in about five languages. It is also hoped that future researchers can develop this research by studying aspects of language mixing and switching and they can conduct other related studies such as bilingualism in SMS, or conduct a morphological or a pragmatic study of CMC in Algeria.

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