Gender and Lexical Features in Jordanian University Students' Use of SMS Messaging

Rafat M. Al Rousan

Department of Applied Linguistics, Yanbu University College,
Saudi Arabia.

Abstract

The phenomenal growth of mobile phone and SMS messaging in Jordan calls for an urgent analysis of its social, psychological and linguistic impact on Jordanians. The present study aims at exploring gender variation in the lexical features used in the SMS messaging of young Jordanian university students. This study draws upon theories of language and gender in face-to-face communication and in computer-mediated communication. One research question guides the study: How do young Jordanian male and female university students use different lexical features in their SMS messaging? The analysis of the present study is based on a corpus of 1,612 SMS messages, which was collected from young male and female university students using three different techniques of data collection. The collected data were categorized according to Yule's (2009) classification of lexical words. The analysis of data showed that the young Jordanian male and female university students differ in terms of the lexical features used in their SMS messaging. The males used more abbreviation and acronyms than the females, whereas the females used more borrowing, derivation, compounding, blending, conversion, and coinage than the males. The paper concludes by suggesting that females tend to use a more clear and expressive language in their SMS messaging. Some recommendations are presented for future research.

Keywords: Gender differences, SMS messaging, Lexical features, Jordanian students

1. Introduction

Today's society depends heavily on mobile phones and SMS messaging. SMS, which formally stands for "short SMS messaging" (Baron, 2003), is an asynchronous mode of computer-mediated communication (henceforth CMC) that enables its users to send short text messages to one mobile phone from another, or to a mobile phone via the internet (Hård af Segerstad, 2002). Technically, SMS is not computer-mediated communication, since it was designed to be sent and received via satellite technology, not through computer networks (Hård af Segerstad, 2002). The first SMS message in the world was a "Merry Christmas" message sent in 1992 by Neil Papworth in the United Kingdom (Deumart & Masinyana, 2008).

Research has revealed that SMS messaging has become an indispensible part of young people's everyday life (Grinter & Eldridge, 2001; Thurlow, 2003). SMS messaging is used for a variety of functions such as contact with family and friends (Döring, 2002; Ling & Baron, 2007; Thurlow, 2003), coordinating times and events (Döring, 2002; Ling, 2005), discussing school topics (Al Rousan, Abdul Aziz & Christopher, in Press), among others. According to Lancaster, Dodd and Williamson (2004), and Ling (2005), SMS messaging is greatly used by university students.

Young generations use a particular language in their SMS messaging that has distinguishing characteristics from both the written and spoken forms of a language (Crystal, 2001). Döring (2002) pointed out that the language of SMS messaging has a discrete system of writing in terms of lexical, syntactic and typographical forms, making it a special code for youth. SMS messaging has also a distinct style as it saves time, effort, and space (Hård af Segerstad, 2002; Thurlow, 2003). This distinct style may be the result of its limited number of characters, which is up to 160 characters in English and up to 70 characters in other languages such as Arabic and Chinese. Young people often make their SMS messaging as economical as possible by using special lexical SMS acronyms, abbreviations, or shortennings and deletions. For example, they use *LOL* instead of lots of laugh/love; *clas*, instead of class; *gud* instead of good; *luv* instead of love; *u* instead of you; *r* instead of are; *wk* instead of week. They also use a combination of letters and numbers such as *every1* instead of everyone; *2moro* instead of tomorrow. Moreover, young people (males and females) widely use emoticons such as happy and sad faces, which are similar to body language to modify the message.

The study of gender differences in SMS messaging in the Arab world, in general, and in Jordan, in particular, has not been sufficiently explored. The paucity of such research as well as the interest of the researcher in this field have inspired the researcher to work on this particular topic.

The purpose of this study is to examine gender differences in the use of lexical features in the SMS messaging of young Jordanian students. The study attempts to answer the following question: How do young Jordanian male and female university students differ, if they do, in the use of different lexical features in their SMS messaging?

2. Review of Literature

2.1 Gender and Face-to-Face Communication

Gender differences in the linguistic choice and interactional style of males and females have triggered a number of language and gender studies (Coates, 1993; Eckert & McConnell-Ginet, 2003; Gray, 1992; Holmes, 2008; Lakoff, 1975; Poynton, 1989; Romaine, 1999; Tannen 1990; Yule, 2009). According to Holmes (2008), Lakoff (1975), and Tannen (1990), males and females communicate very differently with each other. Their communication is so different as if they

belong to two different planets (Gray, 1992). For instance, it was revealed that males and females differ in way they use personal pronouns, articles, hedges, intensifiers, and qualifiers in their communication (Coates, 1993; Lakoff, 1975; poynton, 1989). It was also found that the conversational style of males and females differ greatly. Whereas males' style is described as "report talk", females' style is described as "rapport talk" (Tannen, 1990). Men's style was also described as aggressive, while women's style was described as polite (Lakoff, 1975; Holmes, 2008; Tannen, 1990; Trudgill, 1983).

The choice of language used by males and females in various social communications characterizes linguistic differences between them. For example, females' speech is considered less assertive, facilitating social interactions and relationships, while males' speech is considered more information-oriented (Lakoff, 1975; Tannen, 1990). Furthermore, female language has the tendency to be powerless, using particular linguistic forms like tag questions, silence and indirectness (Coates, 1993; Lakoff, 1975). In contrast, male language tends to be dominant, employing different linguistic forms such as interruption and topic-raising (Poynton, 1989; Tannen, 1990).

Previous research also revealed gender differences in the amount of talk (Coates, 1993; Poynton, 1989; Tannen, 1990). Coates (1993) and Tannen (1990) maintained that men are more "verbose" than women, though it is women who "chatter" in stereotypical mythology. Poynton (1989) believed that females make longer statements to avoid interruption by others. Moreover, women are more likely to use more standard forms in speech than men (Coates, 1993; Holmes, 2008; Trudgill, 1983). Trudgill (1983) pointed out that the association between women and standard language is the most important finding that emerged from social dialects over the past twenty years.

2.2 Gender and Computer-Mediated Communication

Just as males and females differ in their face-to-face communication, they also differ in their computer-mediated communication. Herring (2000), who studied gender differences in CMC based on Lakoff's (1975), Tannen's (1990), and Coates' (1993) theories of gender and face-to-face communication, believed that both men and women transfer the already-present gender differences of face-to-face communication onto computer-mediated communication.

Recent literature has reported gender differences in the linguistic forms as well as the conversational styles of males' and females' communication in both synchronous and asynchronous modes of CMC. (Guiller & Dundrell, 2006; Herring, 1992, 1993, 1995; Selfe & Meyer, 1991; Sierpe, 2002).

One of the earliest studies to investigate how humans communicate using CMC was conducted by Selfe and Meyer (1991). Their results coincided with previous research in face-to-face communication, revealing that men have the tendency to dominate the amount of discourse and that they are more verbally assertive than women are. Herring (1992, 1993) listed two different sets of features distinguishing men's communication style from women's communication style: *the adversarial style* versus *the attenuated style*. The adversarial style of men is characterized by strong assertions, self promotion, sarcasm, rhetorical questions, exclusive first person plural pronouns, imperative form of verbs, impersonal and presupposed truth, and ridiculing an opponent's point of view. The women's attenuated style, on the other hand, is characterized as attenuated assertions using hedges and qualifiers, exhortations phrased as suggestions, questions as a means to get a response, apologies, and inclusive first person plural pronouns.

The findings of Rossetti's study (1997) showed many significant gender differences in the emails of males and females. For instance, women used more modals than men, except for the modal "can". Men, on the other hand, used the modals "could", "might" and "would" significantly more times than women. Women, however, used "can" more than men. "Should, may, and must" are all used more by men. In addition, men and women tended to use adverbs differently. For example, women significantly used the words "please, sorry, thanks, and appreciate" more frequently than men. Men tended to use a more assertive language than women using the word "sure" more times, whereas females used "not sure" more times. Rossetti's (1997) findings support those made by Herring (1992, 1993), and Selfe and Meyer (1991) in terms of *aggressive vs. supportive* language. Supporting Rosseti's (1997) findings and Herring's (1992, 1993, 1995) findings, Soukup (1999), found that male-male interaction was full of flaming, profanity, sexual reference, and attacks on masculinity. In contrast, female-female interaction was characterized by cooperation, relation building, and emotionality. Just like their face-to-face interactions, women on the internet were more likely to maintain a more expressive language, interpret non-verbal behavior better, and socially orient themselves more than men did (Huffaker 2004; Soukup, 1999).

College students are usually the focus of gender differences research in CMC (Baron, 2004; Lee, 2003; Punyanunt-Carter & Hemby, 2006). For example, Baron (2004) concluded that female-female conversational turns are longer than male-male conversational turns, and that the average of female-female conversations is longer than that of male-male conversations. Therefore, it seems that females are more expressive and more concerned with establishing connections with other people through instant messaging. With regard to lexical issues, females employ more complex punctuation and more capitalization than their males and use more unabbreviated lexical forms than males. These findings concur with the finding that women usually use a more standard form than men (Holmes, 2008). All in all, the findings of the research discussed above concur in many aspects with the findings of previous research in face-to-face communication with respect to language and gender.

2.3 Gender and SMS Messaging

Researchers have shown that males and females are different in their SMS messaging with respect to certain features (Baron, 2004; Deumart & Masinyana, 2008; Igarashi et al., 2005; Kasesniemi & Rautiainen, 2002; Klimsa, Colona, Ispandriarno, Sasinska- Klas, Döring, & Hellwig, 2006; Ling, 2005). Ling (2005) pointed out that Norwegian teen males and females used text messages differently. Males used more text messages for mid-future planning activities, whereas females used them for immediate future planning activities. In a study whose findings agree with those of Ling's (2005), Klimsa et al. (2006), Igarashi et al., (2005) demonstrated that SMS messaging is a medium that appeals more strongly to girls than to boys. Igarashi et al. (2005) also revealed that first-year undergraduate Japanese females used SMS messaging more actively than males in social networks and, therefore, usually expand their SMS messaging social networks. Although not elaborated, they mentioned that the content of the females' SMS messaging was different from that of the males'. Similar to face-to-face interaction, Japanese females were more interested in forming and sustaining strong and intimate relationships over SMS messaging than Japanese males.

Deumart and Masinyana (2008); Kasesniemi and Rautiainen (2002); Klimsa et al. (2006); Ling (2005); and Ling and Baron(2007) revealed that females send more messages, write longer messages, form more complex messages, and get involved in more SMS messaging discussions

than males do. In South Africa, female participants wrote longer messages (23 words) than male participants (19 words) (Deumart & Masinyana, 2008). The same results were found in Finland where girls tended to send longer and more complex sentences (containing more than one clause) than male teenagers (Kasesniemi and Rautiainen, 2002). Likewise, Norwegian teenage girls sent far more complex and longer messages than Norwegian teenage boys. A total of 52% of the complex sentences were sent by females compared with 15% sent by males (Ling, 2005). This finding agrees with that of Ling and Baron's (2007), who reported that 60% of the text messages sent by American female students are complex ones.

Furthermore, previous research has revealed significant gender differences with regard to the lexical, syntactic, and typographical features used in the SMS messaging of males and females. In terms of syntactic features, Baron (2004) and Ling (2005) noted that females employ more sophisticated syntax than males. Unlike males who tend to delete syntactic features from their text messages, females like to preserve these syntactic features. Baron (2004) and Ling (2005) also reported some significant gender differences concerning contracted forms among young people. For example, Baron mentioned that male senders of text messages employed more contracted forms than their female counterparts (77% and 57%, respectively). Females, furthermore, used less abbreviation and more punctuation than males (Baron, 2004; Ling, 2005). Females also had the tendency to use more emoticons than males (Baron, 2004; Ling, 2005). Gender differences related to code-switching were also evident in the text messages of students. According to Al-Khateeb and Sabbah (2008), Jordanian male students code-switched between English and Arabic less frequently (30%) than females (44%).

3. Theoretical Framework

Herring (2004) devised a framework for the analysis of online texts. It is an approach to researching computer-mediated communication, which she called Computer-Mediated Discourse Analysis (CMDA). The core of CMDA is the linguistic analysis of logs of verbal interaction (e.g. characters, words, utterances, messages) (Herring, 2004). It enables the analysis of language in a specific medium of communication. For example, language used in text messaging can be influenced by specific features of the technology itself.

According to Herring (2004), CMDA can be used to study "micro-level linguistic phenomena" such as online word-formation processes, lexical choice, sentence structure, and code-switching. It can also be used to investigate "macro-level phenomena" including coherence, community, gender equity and identity in discourse. CMDA may be applied to four levels of language (Herring, 2004): *structural domain* (the use of special typography or orthography, novel word-formations, and sentence structure), *meaning levels* (meaning of words and utterances), *interactional levels* (turn taking, topic development, and other means of negotiating interactive exchanges), *social levels* (linguistic expressions of play, conflict and power, and group membership).

4. Methodology

The present study is part of a larger project which was conducted in 2013. It is a qualitative case study that employed qualitative design to answer its questions.

4.1 Participants

The participants of this study were selected by means of purposive sampling. The sample in the present study was confined to first-year young male and female students from three different universities in Jordan. For the purpose of the current study, "young students" were defined as

male and female students between the ages of 18-20, studying as first year undergraduates at a Jordanian university. This particular group of young students has several years (at least 2 years) of SMS messaging experience from high school. According to Grinter and Eldridge (2001), these young people bring with them to college a well-developed practice of SMS messaging. In this study, a total of 100 students, who were evenly balanced for gender, constituted the sample.

4.2 Data Collection Techniques

Three techniques of data collection were used in the current study. An open-ended questionnaire, a user diary, and semi structured interviews.

4.2.1 The Questionnaire

The questionnaire's main goal was to collect demographic information about the participants as well as their habits of using SMS messaging. Survey questions from previous studies (Grinter and Eldridge, 2001; Hård af Segrestad, 2002) were adopted and customized to fit the purpose of the paper. The questionnaire was written both in Arabic and English and the participants had the choice to pick the language of their choice. It was divided into two parts. The first part focused on getting demographic information about the participants including age, sex, nationality, and major. It was important to gather demographic information in order to guarantee that the participants would meet the requirements of the study. The second part included questions about the habits of using SMS messaging, which may be difficult to observe directly from the corpus. One hundred students (50 males and 50 females) participated in the questionnaire. It is important to note that a number of students were hesitant to participate in the questionnaire. The researcher believes that the sensitive nature of text messages as being very private was the reason behind their hesitation and refusal.

4.2.2 The User Diary

A diary is a document made by someone who has kept a recent, regular, personal log. User diaries offer an intense and real representation of an individual's everyday intimate, sensitive, and personal experiences (Blatter, 2008). This technique was used by Grinter and Eldridge (2001), Deumart and Masinyana (2008), Hård af Segrestad (2002), and Ito and Okabe (2005). Sixty participants' diaries (30 males and 30 females) were used for analysis. The participants were invited to keep a log of the text messages they sent from their mobile phones over a period of one week. They were selected from the group of the students who participated in the questionnaire. Of the 100 students who took part in the questionnaire, 71 (37 males and 34 females) students agreed to participate in the user diaries. Only 62 (30 males and 32 females) students out of 71 students actually participated in the logs because the other 9 (7 males and 2 females) students didn't forward any messages to the researcher. When the researcher contacted them, a few of them apologized and the others didn't answer the calls. To make the sample equal for gender analysis, the researcher excluded the last two diaries received from the female students.

The participants were highly assured that all of the information they provide in the study would be kept strictly confidential, and informed consent was obtained from them. They were given verbal instructions and were requested to keep a record of the text messages they sent to their colleagues or family members over a period of one week. In order to control the possibility of copying errors due to retyping or rewriting, the participants were asked to forward their messages to the researcher's mobile phone, at the researcher's own expenses. The participants were compensated by the researcher by charging their pre-paid phone cards with an amount covering the cost of sending the messages. They were given the choice to do the forwarding either at the end of each day or right after sending their messages, whichever was more

convenient to them. A total of 1612 messages (780 messages from males and 832 messages from females) were sent by the participants to the researcher's mobile phone.

4.2.3 The Semi-structured Interview

Semi-structured interviews were conducted in order to complement the other two techniques of data collection by eliciting information directly from the participants. A semi-structured interview, "is a qualitative data collection strategy in which the researcher asks informants a series of predetermined but open-ended questions" (Ayres, 2008, p. 810).

The interviewees, 20 students (10 males and 10 females), were chosen from the group of the students who participated in the user diaries. The interviews were not primarily intended to gain data for linguistic features per se, but rather for complementing the linguistic material obtained from the other two techniques and the researcher's understanding of how people use SMS. The interviews were carried out in Arabic. To ensure confidentiality and eliminate disruptions, the interviews were carried out in private rooms within the universities. They were conducted in the form of an informal one-to-one, friend-to-friend chat, which created a friendly atmosphere, motivating the participants to share their information willingly and trustfully. The students were given pseudonyms to conceal their identities. Informed consents were also obtained from the participants before beginning the interviews. The whole interview process was tape-recorded. The participants were informed that it would be possible to stop the audio-recording if they felt uncomfortable at any time during the interview. The researcher took down some quick and important notes in his notebook while the students were answering the questions. At the end of each interview, the researcher thanked the participants for their co-operation.

4.3 Data Analysis

The data collected for this study were analyzed manually. All the messages were categorized by gender. Each message was then analyzed for the occurrence of the lexical features. Frequency was used to help determine gender differences in the students' SMS messaging. The data revealed the use of three systems of writing in the SMS messaging of the students: English, Arabic, and Romanized Arabic. Therefore, the students' text messages were classified into three categories: English messages, Arabic messages, and Romanized Arabic Messages.

The lexical features were classified in light of word-formation processes proposed by George Yule in his book, "The Study of Language" (2009, pp. 53-57). They were then adapted to fit the purpose of the study. The lexical features were categorized as the following:

a. Coinage (Kleenex, Xerox, Brillo)
b. Borrowing (*yogurt* from Turkish; *Pizza* from Italian)
c. Compounding (*girlfriend*=girl+friend, headmaster=head+master)
d. Blending (*mote*l= motor+hotel; *smaze*= smoke+haze)
e. Conversion (*vacation, butter* are nouns used as verbs)
f. Derivation (unimportant= un+important; successful= success+full)
g. Acronyms (ATM= automatic teller machine; LOL= lots of love/laugh)
h. Abbreviation (wk= week; msg= message)

Before proceeding with data analysis, all the text messages were checked by three trained coders to determine the type of lexical features used in the text messages. Each coder analyzed all the text messages individually, and their results were compared for consistency.

5. Results

Figure 1 covers word-formation processes among the students and shows variations among them with respect to each lexical category.

Figure 1: *Lexical Features in SMS messaging of Young Jordanian University Students*
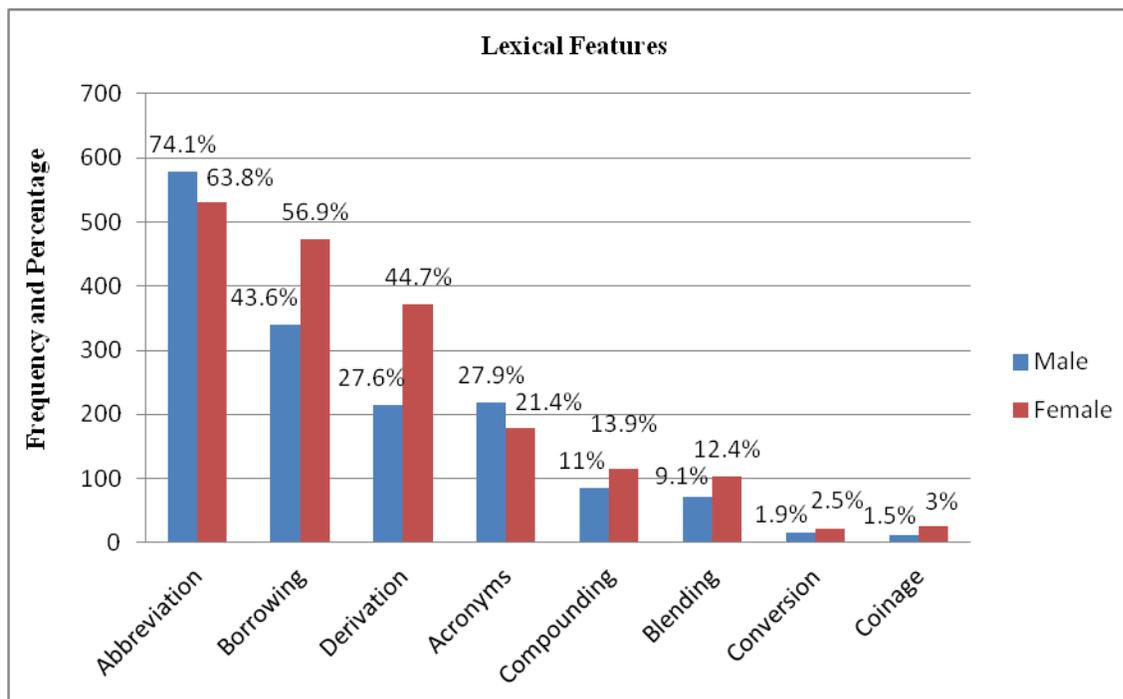
5.1 Abbreviation

This word-formation process is one of the "most noticeable features of present-day English" (Crystal, 2005, p. 504). It refers to the process whereby longer words are reduced into shorter ones by omitting certain vowels from a word (e.g., wk for week; tnght for tonight). Yule (2009) used the term clipping in his categorization of word-formation processes. This term was replaced by the term abbreviation because it is a more common and a wider term that includes more abbreviated forms of words than clipping (Crystal, 2005).

The data analysis showed that abbreviation is the most common lexical feature among the young Jordanian students participating in this study. Most abbreviated forms occurred in the English and Romanized Arabic messages. Abbreviation in the students' text messages is recorded high on the scale and the ratio of using abbreviation in the text messages differs between the male and female students. The percentage of abbreviation among the males is 74.1% (578) compared to 63.8% (531) among the females.

The vast majority of the abbreviations in this study are based on English and Romanized Arabic text messages. This may be due to the nature of orthography in Arabic. Texters usually achieve abbreviation through clipping such as sis for "sister" and bro for "brother", or by omitting vowel sounds from the middle of the word such as wk for "week" and hw for "how". Below are some examples of the students' abbreviations. English, Arabic, and Romanized Arabic messages are provided below (Abbreviated words are given in square brackets and the originals in round brackets. M represents male and F represents female).

Example 1(M): **[hw] come you don't want to give me my [mny] back?**

((How) come you don't want to give me my (money) back?

Example 2 (F):[غلتي](غلطتي) والله انسيت انه في تريننج. اووووبس.سامحيني

(Oooops, it is my mistake. Please, forgive me. I forgot that we have training.)
Example 3 (F): **[kf] (keef) eltalj bijanin, ru7na 3ala 3jloun [inbstna] (inbasatna) [ktrrrrr]. (kteer)**
([How] was the snow? It was fabulous. We all went to Ajloun. We [had a lot of fun].)

5.2 Borrowing

Borrowing is a linguistic term which refers to a linguistic form that is transferred from one language into another usually by bilingual speakers (Crystal, 2008). For example, the word restaurant came into English from French. The borrowed lexical items are also called "loan words" (Fromkin et al., 2011, p. 505). Borrowing simply means taking a word or a phrase from one language and using it in another.

The given data mark borrowing as the second most common linguistic feature in the students' text messages. The percentage of borrowing among the young Jordanian male and female students emphasizes the aforesaid finding. The data showed that borrowing was used in 56.9% (473) of the females' text messages. In contrast, it was used in 43.6% (340) of the males' text messages. This finding is consistent with Al Khateeb and Sabbah's (2008) study which revealed that female students code-switch between English and Arabic in their text messaging more than their male counterparts. The data also showed that the students borrowed items from English when they type their messages in Arabic and vice versa. However, females tend to borrow more words and phrases from English than males do. It is noticed from the data that when English and Arabic are used in text messages, students tended to use more English words than Arabic words in a given message. This seems to indicate that English is a popular mode of communication among the young Jordanian females. Below are two examples of students' borrowings from Arabic:

Example 4 (M): **Hi, don't forget to bring the CD [bukrah] plz (tomorrow)**
Example 5 (F): **سموحه لاتنسي دفترالاسلاميه[بليز]**
([Please] Samouhah. Do not forget the Islamic Science notebook)
Example 6 (F): **Roo7i 3al [faysbuk now now] o shoofi el[masij] elli ba3tlik yaha**
(Go to [facebook] right now and check the message I have sent you).

5.3 Derivation

Derivation is considered the most common word-formation process to be found in the production of new forms (Fromkin et al., 2011; Yule, 2009). It is accomplished by means of a large number of affixes in English messages. An affix is added to an already existing word. For example, boyish is derived by adding the suffix-ish to the word boy; the word unhappy is derived by adding the prefix un-to the word happy.

Figure 1 shows that the frequency of derivation among females is higher than the frequency of derivation among males in the text messages; females used derivation in 44.7% (372) of their text messages while males used it in 27.6% (215) of their text messages.

English is a derivational language while Arabic is an inflectional language (Khalil, 1996). In English, derivation is achieved by adding affixes (suffixes, infixes, prefixes) to an existing word such as helpless which is derived by adding the suffix less to the end of the word help. In Arabic, some words are derived from root words. For example:

Example 7 (F): **[تروحي] معنا ولا متل كل مره امك تعبانه؟**
([Do you want to go] with us or like every time you say that your mother is sick?)
In this example , the word تروحي is derived from the root "راح" and in example (2), the word [قولت] is derived from the root "قول".

5.4 Acronyms

Acronyms are words that are derived from the initials of several words and they are pronounced as single words (Fromkin et al., 2011, p. 504) such as USA from United States of America, UN from United Nations, and NASA from National Aeronautics and Space Administration.

Even though brevity in text messaging does not allow the use of complex and formal style of language, it becomes a common feature of text messages owing to its ease of use and mutual intelligibility across the board among the texters. Most of the acronyms found in the data are English-based. The given data showed considerable variation among the males and females in this study with regard to the use of acronyms. While acronyms were used in 27.9% (218) of the male students' messages, they were used in 21.4% (178) of the female students' messages. The texters form acronyms from the initial letters of a set of other words that sound like one word. Below are examples from English, Arabic and Romanized Arabic as they appear in the students' messages. (The acronyms appear in square brackets followed immediately by the original word in round brackets).

Example 8 (F): **U hear the breaking news. Amal left her [bf] (boyfriend)**

Example 9 (M): بتمر أحمد تتذكر [ع م] (عيد ميلادك) السنه الماضيه؟ من الآخر صح!!! يا الله الأيام كيف

(Ahmad, do you remember your [birthday] last year? It was the best, wasn't it? God, how quick the days go by!)

Example 10 (M): **ween halghaibeh? Lessa za3laaneh. 2na 3an jad 2asef [lol](lots   of love)**

(Where have you been? Are you still angry with me? I am really sorry [lots of love])

The most common acronyms reported in the students' English text messages are lol for laughing out loud, brb be right back, cul for call you later, and ttyl for talk to you later respectively. However, in their Arabic text messages, the students frequently use س م (salam) for Hello and ص خ, (sabah elkhair) for good morning.

5.5 Compounding and Blending

Compounding is a linguistic term widely used to refer to a linguistic unit which is made up simply by joining together two different linguistic words that function independently in other circumstances such as bedroom, rainfall, and washing machine (Crystal, 2008). Blending is a similar process that refers to combining two individual words to form a completely new word, usually by joining two shortened forms of two other existing words (Crystal, 2005; Yule, 2009). For example, the word *smog* is formed from *smoke and fog*; *heliport* is formed from *helicopter and port*. Blends are usually formed by combining the first part of the first word with the second part of the second word.

As shown in Figure 1, the females used compounding and blending 13.9% (116) and 12.4% (103) respectively in their text messages, whereas males used them 11% (86) and 9.1% (71) respectively, in their text messages. Both of these features involve combinations of morphemes to form a new word, but compounding requires combining two independent lexemes. The following are examples of blending and compounding:

Example 11 (M): **I ate [breakfast] with mother before I come to university**

Text messages in Arabic overwhelmingly indicate proper nouns compounding. Here are some examples on compounding from the students' messages which were written in Arabic.

Example 12 (M): حدا مابحب يسمع [لام كلتوم]

(Is there anyone who doesn't like to listen to [Umm Kaltoum]?)

Example 13 (F): **2otlak abouy [mudeer bank] fi amman bs mu mdawim elyoum**
(I told you my father is a [bank manager] in Amman, but he isn't working today.)

The use of compounding in English is extensive, whereas the use of compounding in Arabic is limited (Khalil, 1996). Unlike English compounds, Arabic compound words found in the text messages are typically separated by a space within the nouns. Compounds in Arabic can be formed from three words such as ابو عبد السلام[Father of Abd Alssalam] although they are pronounced as single forms.

5.6 Conversion

Conversion refers to the derivation of a new item by changing its function without adding any affixes (Crystal, 2008; Yule, 2009). For example, the verb smell comes to be used as a noun; the noun bottle comes to be used as a verb. It is among the least common word-formation processes, which is texted in a minimum number of the messages. The females used conversion in 2.5% (21) of their text messages compared to males who used it in 1.9% (15) of their messages. The researcher assumes that the low percentage of conversion may be attributed to the uncommon use of this feature of word-formation in our everyday communication. In conversion, a noun comes to be used as a verb (Fromkin et al., 2011; Yule, 2009), a skill that may require command on word-formation processes. The data collected from the young Jordanian texters provide us with insight into interesting instances of conversion in the text messages. The following are some examples of conversion:

Example 14 (F): **Dunt tell her nthing. she will [wikileak] u**

It is important to mention that this feature is not a characteristic of Arabic; thus, very few examples of Arabic conversion appeared in the data. However, there are students who used some technical lexical elements found in English in their daily conversations such as e-mail, wikileak, message, save, and format.

Example 15 (M): **لاتنسى[تسيفها] وابعثها بسرعه**
(Do not forget to [save it] and send it very quickly)

The data indicated that most of the terms used by the males and females in this category are words that have recently appeared in communication. These terms are very common in everyday interactions nowadays. Even though the frequency of conversion is not high in the text messages and the difference is not significant, the female students tend to use conversion more than the male students, signalling more complexity in their use of language.

5.7 Coinage

Coinage is a term which refers to the invention of totally new words (Yule, 2009). These new words are created outright for a specific purpose. For example, new words that have been added to English by the advertising industry are such Kleenex, Brillo, Jello, Xerox, Band-Aid (Fromkin et al., 2011). Some words are actually coined from the existing words (e.g., Kleenex from the word clean).

Among the word-formation processes, coinage is one of the least common and least creative processes of word- formation. In this study, coinage is observed only in 37 text messages. However, the percentage of coinage in the text messages among the females is 3% (25) compared to 1.5% (12) among males, which is relatively higher. The most typical sources of coinage are found to be related to trade names for commercial products or objects mentioned in the messages of the texters. The following are some examples from the students' text messages on this particular feature:

Example 16 (M): **U saw Samer [jeep]? Very nice color**

Example 18 (F): **salam 3omri. Ma3ek [Vaseline]? Hassa jeet min el jim**

(Hello my love. Do you have some [Vaseline]? I've just come out of the gym.)

Example 4 (F)في(زيروكس) ماشيين عند ابو جواد عزاوية الجنوبئ. بلييز بدي اياك تعملي20 كوبيز

(Please, I need you to make 20 copies. There is a [zerox] machine in Abu Jawad store on the corner of the south gate.)

6. Discussion

The data analysis revealed that there is variation in the lexical features used by the male and female students in their SMS messaging.

One of the obvious gender differences is present in the students' borrowing, where females tend to be more regular borrowers than males. They tend to borrow more English words and phrases when texting in Arabic or Romanized Arabic. The relatively higher percentage of borrowing from English supports the finding that English has become a common means of interaction among young Jordanian female students. It also shows a strong female interest in English. This raises a profound question on the influence and future of English in Jordan.

Abbreviations, including clippings and short forms, are shown to be the most common features that occur in the students' text messages. The male students in this study used more of this feature in their text messages than their female counterparts. This finding agrees with the findings of previous research revealing that males employed more abbreviated forms than females (Baron, 2004; Hård af Segerstad, 2002; Ling, 2005). Such a finding shows that students prefer using the abbreviated spelling rather than the standard spelling indicating the importance of brevity in text messages. Economy and speed which are usually manifested in the abbreviation of words are said to be the motive for using abbreviations in SMS messaging. The interviews showed that the young students commonly use abbreviation to save time, money, and effort, a finding that is in accordance with Baron (2004), Döring (2002), Hård af Segerstad (2002), and Thurlow (2003). According to Döring (2002), abbreviations satisfy collective identity functions thus requiring a common shared knowledge in order to be able to understand the language and, hence, to be able to use it. SMS messaging communication is interpersonal, that is, it is communication between people who share a considerable amount of shared background knowledge; therefore, they can rely on their shared background knowledge by using a particular kind of language in their texting (Grinter & Eldridge, 2001; Hård af Segerstad 2002). According to Reid and Reid (2004), the skilful use of abbreviations and short forms among the young students signals solidarity and group affiliation.

Despite the fact that abbreviations speed up the process of typing, save time and effort, and do not change the semantic value of communication, females still do not like to use them in their SMS messaging as much as males do because some of them consider it rude to be very short-spoken.

Joud, a female student, said that:

"انا بحس اني قليلة احترام للاخرين لما بتكون رسالتي مختصره"

[I think it is rude to be short-spoken]

The interviews and the questionnaires indicated that females sometimes use abbreviation unintentionally, but they stop using them when they realize that they are overdoing it. 60% of the female students who participated in the interviews explained that they always try to make their text messages as clear as possible. One of the female students stated that:

" لما بستخدم كتير اختصارات بالمسج تاعتي , بحس انه انه مش كتير شي حلو عشان هيك انا دائما بعيد عليها. "

[When I use so many abbreviations, I feel that my message is disrespectful, so I always recheck my messages].

Acronyms are also a strong marker of gender differences in the students' SMS messaging. These acronyms are used more by males compared to females. It is important to note that 10% of the males and 20% of the females interviewed reported having difficulty understanding, at times, some of the acronyms used by their fellow students (males and females) because of the use of new acronyms which can sometimes be confusing. This indicates that the language of SMS is still evolving to fit the needs and the features of the medium.

The data also showed that compounding and blending are not very common in the text messages of the students. However, they appear more in the text messages of the females. This may indicate that females are more complicated users of a language and that males like to keep their communication simple. It also shows that females choose a language that is more complex and closer to the standard norm.

Despite the fact that males and females differ in their use of coinage and conversion, these two word-formation processes are found to be low in the data. The weak utilization of coinage and conversion may be attributed to technical matters or to the uncommon use of this feature of word-formation in everyday communication. The finding that females employ coinage and conversion more than males in their text messages may suggest that females are more creative than males in the use of this medium.

7. Conclusion

Gender differentiation is a significant aspect of culture that is often reflected in language use. This study concludes that the young Jordanian male and female students used different lexical features in their SMS messaging. Word-formation processes such as coinage, compounding, blending, abbreviation, conversion, acronym, and derivation are essential stylistic features of texting among the students. Specifically, abbreviations and short forms such as clipping, and acronyms are the most prevalent of all features. Brevity is the most popular feature among the students although males tend to use it relatively more than females. However, females tend to be relatively more expert in other word-formation processes such as borrowing, derivation, blending and compounding. Along with this, the text messages of female students differ from those of the males in lexical reduction and shortening. English is also found to be a more popular mode of communication among the young Jordanian females because they borrow English words and expressions, on average, more than their male counterparts. Finally, further research is needed in order to explore more gender and language issues in SMS messaging

About the Author

I obtained my PhD degree in Applied Linguistics from Utara Universiti Malaysia in 2013. Presently, I am a lecturer at the department of Applied Linguistics at Yanbu University College, Saudi Arabia. I teach courses in linguistics including sociolinguistics, semantics, pragmatics, discourse analysis, phonetics, research methodology, among others. My research interest includes sociolinguistics, pragmatics, and gender and CMC.

.

References

Al-Khateeb, M., & Sabbah, E. H. (2008). Language choice in mobile text messages among Jordanian university students. *Sky Journal of Linguistics*, *21*, 37-65.

Al Rousan. R., Abdul Aziz, N., & Christopher, A. (in Press). "Where Are You?" The Communicative Functions of Saudi Students' Text Messaging. *International Journal of English Linguistics, 4* (3).

Ayres, L. (2008). Semi-structured interview. In L. M. Given (Ed.), The sage encyclopedia of qualitative research methods, 1-2 (pp. 810-811). Thousand Oak, California: SAGE Publications.

Baron, N. S. (2003). Language of the internet. In A. Farghali (Ed.), *The Stanford Handbook for Language Engineers* (pp. 59-127). Stanford: CSLI Publications.

Baron, N. S. (2004). See you online: Gender issues in college students' use of IM. *Journal of language and Social Psychology*, *23* (4), 397-423.

Blatter, J. (2008). Case study. In L. M. Given (ed.), *The sage encyclopedia of qualitative research methods*, *1-2* (pp. 68-71). Thousand Oak, California: SAGE Publications, Inc.

Coates, J. (1993). *Women, men and language: A sociolinguistic account of sex differences in language* (2nd ed). London: Longman.

Crystal, D. (2001). *Language and the internet*. Cambridge: Cambridge University Press.

Crystal, D. (2005). *The Cambridge encyclopaedia of the English language* (2nd ed.). New York: Cambridge University Press.

Crystal, D. (2008). *A dictionary of linguistics and phonetics* (6th ed.). Blackwell Publishing.

Deumart, A., & Masinyana, S. O. (2008). Mobile language choice: The use of English and IsiXhosa in text messages (SMS). *English World Wide*, *29* (2), 117-147. John Benjamins Publishing Company.

Döring, N. (2002). Have you finished work yet? :). Communicative functions of text messages (SMS). Retrieved May 5, 2009, from www. receiver.vodafone.com.

Eckert, P., & McConnell-Ginnet, S. (2003). *Language and gender*. Cambridge: Cambridge University Press.

Fromkin, V., Rodman, R., & Hyams, N. (2011). An introduction to language (9th ed.). New York: Wadsworth Cengage Learning.

Gray, J. (1992). *Men are from Mars, women are from Venus*. New York: Harper Collins publisher.

Grinter, R. E., & Eldridge, M. A. (2001). 'Y do tngrs luv 2 txt msg?' In W. Prinz, M. Jarke, Y. Rogers, K. Schmidt & V. Wulf (Eds.), *Proceedings of the Seventh European Conference on Computer-supported Cooperative Work, 16-20 September, Bonn, Germany* (pp. 219-238). Dordrecht, Netherlands: Kluwer Academic Publishers.

Guiller, J., & Durndell, A. (2006). 'I totally agree with you': Gender interactions in educational online discussion groups. Journal of Computer Assisted Learning, *22* (5), 368-381.

Hård af Segerstad, Y. (2002). *Use and adaptation of written language to the conditions of computer-mediated communication* (Unpublished doctoral dissertation). Göteborg University, Göteborg, Sweden.

Herring, S. C. (1992). Gender and participation in computer-mediated linguistic discourse. *Washington, D.C.: ERIC Clearinghouse on Languages and Linguistics*. Retrieved April.18, 2009, from.http://ella.slis.indiana.edu/~herring/participation.1992.pdf

Herring, S. C. (1993). Gender and democracy in computer-mediated communication. *Electronic Journal of Communication*, *3* (2), 476-489. Retrieved April 16, 2009, from http://ella.slis.indiana.edu/~herring/ejc.txt

Herring, S. C. (1995). Men's language on the Internet. *Nordlyd*, *23*. *Proceedings of the 2nd Nordic Language and Gender Conference* (pp. 1-20). Retrieved July 15, 2009 from http://ella.slis.indiana.edu/~herring/men.1995.pdf

Herring, S. C. (2000). Gender and power in online communication. Center for *Social Informatics Working Papers*. Retrieved April 25, 2009, from http://rkcsi.indiana.edu/archive/CSI/WP/WP01-05B.html

Holmes, J. (2008). *An introduction to sociolinguistics* (3rd ed.). London and New York: Pearson Education Limited.

Huffaker, D. A. (2004). *Gender similarities and differences in online identity and language use among teenage bloggers* (Unpublished master's thesis). Georgetown University, Washington, D C.

Igarashi, T., Tajai, J., & Yoshida, T. (2005). Gender differences in social network development via mobile phone text messages: A longitudinal study. *Journal of Social and Personal Relations, 22* (5), 691-713.

Ito, M., & Okabe, D. (2005). Intimate connections: Contextualizing Japanese youth and mobile messaging publications. In R. Harper, L. Palen and A. Taylor (Eds.), *The Inside Text: Social, Cultural and Design Perspectives on SMS* (pp.127-143). Dordrecht, The Netherlands: Kluwer.

Kasesniemi, E., & Rautiainen, P. (2002). Mobile culture of children and teenagers in Finland. In J. E. Katz & M. Aakhus (Eds.), *Perceptual contact: Mobile communication, private talk, and public performance* (pp. 170-192). Cambridge: Cambridge University Press.

Khalil, A. (1996). *A contrastive grammar of English and Arabic*. Jerusalem: Al-Isra' Press.

Klimsa, P., Colona, G., Ispandriarno, L., Sasinska- Klas, T., Döring, N., & Hellwig, K. (2006). *Generation SMS: An empirical, 4 country study carried out in Germany, Poland, Peru, and Indonesia*. Retrieved March 9, 2009, from http://km.meme.hokudai.ac.jp/people/jantke/Publications/2007/2007_TUI-IfMK-DB-29.pdf

Lakoff, R. (1975). Language and woman's place. New York: Harper Row. *International Journal of E-learning*, *5* (4), 525-570.

Lancaster, G. A., Dodd, S., & Williamson, P. R. (2004). Design and analysis of pilot studies: Recommendations for good practice. *J Eval Pract*, *10* (2), 307-312.

Lee, C. (2003). *How does instant messaging affect interaction between genders?* Retrieved May 13, 2010, from http://www.stanford.edu/class/pwr3-25/group2/pdfs/IM_Genders.pdf

Ling, R. (2005). The Sociolinguistics of SMS: An analysis of SMS use by a random sample of Norwegians. In R. Ling & P. Pederson (Eds.), *Mobile communication and the recognition of the social sphere* (pp. 335-350). London: Springer.

Ling, R. (2008). *New tech, new ties: How mobile communication is reshaping social cohesion*. London: MIT Press.

Ling, R., & Baron, N. (2007). SMS messaging and IM: Linguistic comparison of American college data. *Journal of Language and Social Psychology*, *26*, 291-298.

Pederson, S., & Macafee, C. (2007). Gender differences in British blogging. *Journal of Computer-Mediated Communication, 12* (4), article 16. Retrieved November 22, 2009, from http://jcmc.indiana.edu/vol12/issue4/pedersen.html-82k

Poynton, C. (1989). *Language and gender: Making the difference*. Oxford: Oxford University Press.

Punyanunt-Carter, N. M., & Hemby, C. O. (2006) College students' gender   differences regarding e-mail. *College Student Journal*, *40*, 651-653

Reid, F. J. M., & Reid, D. J. (2004). Text appeal: The Psychology of SMS texting and its implications for the design of mobile phone interfaces. *Campus-Wide Information System, 21* (5), 196-200. Emerald Group Publishing Limited

Romaine, S. (1999). *Communicating gender*. New Jersey: Lawrence Elbraum Associates Publishers.

Rossetti, P. (1997). *Gender issues in the information highway: An analysis of communication styles in electronic discussion groups*. Retrieved March, 5, 2010, from http://www.wfi.fr/volterre/rossetti.html

Selfe, C. L., & Meyer. P. R. (1991). Testing claims for on-line conferences. *Written Communication , 8*, 163-92.

Sierpe, E. (2002). *Gender and its relationship to perception in computer-mediated communication* (Unpublished doctoral dissertation). McGill University, Montreal.

Soukup, C. (1999). The gendered interactional patterns of computer-mediated chartrooms: A critical ethnographic study. *The Information Society: An International Journal, 15*, 169-176.

Tannen, D. (1990). *You just don't understand: Men and women in conversation*. New York: William Morrow.

Thurlow, C. (2003). Generation TXT? The Sociolinguistics young people's text-messaging. *Discourse Analysis Online, 1* (1). Retrieved March 9, 2009, from http://www.shu.ac.uk/daol/articles/v1/n1/a3/thurlow2002003-paper.html.

Trudgill, P. (1983). *On dialect: Social and geographical perspectives*. New York: New York University Press.

Yule, G. (2009). *The study of language*. Cambridge, UK: Cambridge University Press.