Textisms, texting, and spelling in Spanish☆

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Abstract

This study examines undergraduates' perception of usage in smartphone text message and their relationship with the process of learning Spanish spelling. The aim is to establish whether subjects who have become competent language users in a digital environment accept the use of textisms and whether these textisms are perceived differently depending on their phonetic, lexical, and multimodal features. A total of 388 undergraduates from the Faculty of Education Science of the University of Seville participated in a non-experimental study of a descriptive type based on surveys. The data showed that both standard Spanish writing and digital usage coexisted harmoniously in participants' texts. However, a clear difference was established between textisms that modified Spanish writing rules and those that incorporated new elements not included in standard writing. Whereas textisms which modified the relationship between phonemes and graphemes were considered a challenge to standard writing as well as to academic literacy among young students (12–16), lexical textisms, emoticons, images, and videos were not considered harmful to standard Spanish. The study suggested that evolution of the writing rules set by the Spanish Academy could be influenced by the digital writing habits of young students.

1. Introduction

1.1. Instant messaging and the Spanish language

Recent data show that 93.1% of the Spanish population over 18 use different instant messaging applications daily (AIMC, 2016). Instant messaging is by far the most widely used Internet service in Spain, and given that nine out of every ten speakers read and write instant messages every day, it is probably the most frequent text typology in Spanish (Martín, 2016). Text messages have given rise to a new written code that has been called *textese* (Johnson, 2015) and also *digitalk* (Turner, 2010). Nevertheless, despite the fact that more five hundred million people communicate in Spanish, this new written code has not received enough attention within Spanish Language studies. The practice used in texting is not a juvenile alternative jargon (Betti, 2006) or a linguistic prank, but a form of communication in Spanish that could

influence conventional Spanish writing practice (Alonso and Perea, 2008; Mas and Zas, 2012). In order to address the issue properly, regard should be had to digital norm studies concerning languages related or close to Spanish. The influence of text messages on standard writing practices has been researched in languages closely related to Spanish (Bernicot et al., 2014; Bigot and Croute, 2012; Crystal, 2008; Gómez-Camacho et al., 2016; Gómez-Camacho and Lopes, 2017), and these previous studies have been used to establish parallels between certain Romance languages, specifically Spanish, French, and Italian (Panckhurst, 2010).

The writing style of text messages in English has been widely described by Thurlow and Brown (2003), Crystal (2008), Plester and Wood (2009), Kemp and Bushnell (2011), and De Jonge and Kemp (2012), Wood et al. (2014), Waldron et al. (2016) and Kemp and Grace (2017). The present work takes as major references the classifications of textisms provided by Lyddy et al. (2014) and Wood et al. (2014), which are based on previous classifications by De Jonge and Kemp (2012) and Plester et al. (2009). The classification used here has been organized by frequency order as follows: disregarded capitalization, accent stylization, letter/number homophones, missing punctuation, contractions, non-standard/phonetic spellings, *g* clippings, other clippings types, onomatopoeic/exclamatory expressions, shortenings, misspellings, initialisms, semantically unrecoverable words, emoticons, and typographic symbols.

Regarding the French language, textisms in text messages were first compared with standard orthographic practices in a study by Bouillaud et al. (2007). Later, Bernicot et al. (2014) established two different types of textisms: those consistent with the grapheme-phoneme correspondence (i.e. those which follow the standard written code) and those which are not. Recent studies on the perception of the digital norm in Italian (Gómez-Camacho et al., 2016) and Portuguese (Gómez-Camacho and Lopes, 2017) confirm the difference established at grapheme-phoneme level, lexical-semantic level and multimodal elements by speakers in languages close to Spanish, in line with the contribution of Bernicot et al. (2014) regarding the French language. A more exhaustive categorization is proposed by Lanchantin et al. (2014) in which three main groups of French textisms are established: additions (letters, punctuation marks, copy-and-paste tool); substitutions (extra-substitutions on several words, incomplete substitutions, missing letters in a word, deletions of letters with no phonic value, variant French words); and reductions (extra reductions of several words, whole reductions for one word, incomplete reductions or alterations and variants of French forms).

The taxonomy of textisms in the Spanish language has been established by previous research (Gómez-Camacho, 2007; Gómez-Camacho and Gómez del Castillo, 2017). Several authors (Calero, 2014; Caurcel et al., 2013; Domínguez, 2005; Galán, 2002; Llisterri, 2002; Mancera, 2016; Mas and Zas, 2012; Vázquez-Cano et al., 2015) have identified frequent features in text messages: suppression of silent letters (*h*, for example), digraphs (for example, *ll*, *ch*, *qu*, *gu*), simplification of graphemes representing the same phoneme (for example, *b* instead of *v*, *i* instead of *y*, *k* instead of *c* or *qu*) and vowel suppression. There are also recurrent features: writing numbers and mathematical symbols which are homophones and using letters by their name (for example, *x*, *+*, *d*, *t*, and *2* instead of *por*, *más*, *de*, *te*, and *-dos*).

The present study introduces a classification of textisms in Spanish which has three main sources. First, the three maxims of the text message style established by Thurlow and Poff (2013): shortness and speed, paralinguistic restitution, and phonological approximation, and, further, the most recent textism categorization by Kemp and Grace (2017). Second, the classifications of French textisms established by Bernicot et al. (2014) and Lanchantin et al. (2014). Finally, the classification for the Spanish language by Gómez-Camacho (2007), revised by Vázquez-Cano et al. (2015) and recently applied in Gómez-Camacho and Gómez del Castillo (2017), see Table 1. With these previous models taken into account, the present paper offers a codification of Spanish textisms divided into repetitions, omissions, non-normative graphemes, lexical textisms, and multimodal elements. This classification of textisms in Spanish gives rise to a framework structured according to grapheme-phoneme level, lexical-semantic level and multimodal element, all of which appear to be differentiated according to speaker perception. This has not been previously done for the Spanish language.

1.2. Text messaging and literacy

In general, the written norm used in text messages has been perceived as a threat to standard Spanish writing practice, in part due to negative repercussions in the acquisition of linguistic competence (Llisterri, 2002). These repercussions have not been sufficiently studied in the Spanish contexts. Nevertheless, they have been studied for other main languages.

Research on the English language regarding the relationship between communicating by text message and linguistic competence (Drouin and Driver, 2014) has been undetaken according to user age: children (Blom et al., 2017; Bushnell et al., 2011; Kemp and Bushnell, 2011; Plester and Wood, 2009; Wood et al., 2014), teenagers (Durkin et al., 2011; Gann et al., 2010; Turner et al., 2014), and young undergraduates (De Jonge and Kemp, 2012; Drouin, 2011; Kemp, 2010; Kemp and Grace, 2017; Ling and Baron, 2007; Powell and Dixon, 2011). Research mainly shows no detrimental effects of text messaging (Bushnell et al., 2011; Durkin et al., 2011; Gann et al., 2010; Kemp, 2010; Kemp and Bushnell, 2011; Plester and Wood, 2009; Powell and Dixon, 2011; Wood et al., 2014). Waldron et al. (2016) and Kemp and Grace (2017) recently analyzed the effect of predictive text use and literacy skills in primary- and secondary-school students, and also in

Table 1
Category of non-standard spelling.

Textisms	Keys	Examples
Emphatic repetitions - Inverted closing marks, repetition of one or more letters, emoticons emphatic repetition, interjection or onomatopoeia emphatic repetitions	*(Rep)*	*????, !!!!!, vaaaale, amiiiiiigo, ahhhh*
Omissions - One or more letters by shortening, contraction, apocopation, syncope, aphaeresis, word reduction into consonant groups, joining two words -Punctuation marks total/partial omission - Tildes total/partial omission	*(Short/Clipp)* *(PunOmi)* *(AccOmi)*	*toy, te visto, tngo, nmbre*
Non-normative graphemes - Non-normative use of k/ x/ sh/ w/ y/ i/ z, digraphs simplification, intentional mistakes - Homophone use of letters, numbers and mathematical signs - Capital omission	*(NonstSpell)* *(Symb/Numb)* *(CapOmi)*	*kien, shao, weno, páyá, txica, x favor, + cosas, da2, t veo, d nada*
Lexical textisms - Dialectisms, regional varieties transcription, transcription of social and register varieties - Creation of new words, non-standard onomatopoeia or interjections, amalgams or conglomerations, foreign words, acronyms, non-standard initials or abbreviations	*(AccSty)* *(NewWor)*	*asta, e pelao, ceñío, improvisao, toas, torayá, pegá, ziii, dise, pfff, pirfii, sip, jartao,wasap, potito, lok*
Multimodal elements - Emoticons, stickers - Images - Audios - Videos	*(Mult)*	

undergraduate students. This newly opened research line is highly relevant as predictive text could influence textisms usage and perception in the future.

As with equivalent English studies, French language studies by Bouillaud et al. (2007), Bernicot et al. (2014), Lanchantin et al. (2014), and Cougnon et al. (2016) generally show no detrimental effects of text messaging. A novel aspect was introduced by Bernicot et al. (2014) as they consider the correlation between the level skill in of standard spelling and the density of textisms to be partially dependent on whether the type of textism is consistent with the standard code and on whether the phoneme/grapheme relationship with the standard orthography comes to be broken. The classification offered (see Table 1) has been drawn up taking into consideration this new aspect introduced by Bernicot et al. (2014).

Therefore, a general disapproval of the use of textisms in text messages and in social networks due to supposed harm to spelling ability and literacy among young people is mainly justified by the perception of the media (Johnson, 2015).

2. Methods

The study used a transectional approach, as data was collected in one session. It is based on surveys and uses a *non-experimental design of a descriptive type*.

2.1. Objective

The main aim of the study was to determine subjects' opinion of the Spanish written norm used by young educated speakers in texts sent through their smartphones or shared on social networks, as well as their opinion of the educational repercussions that textisms might have on students acquiring linguistic competence in Spanish. The study focuses on participants' perceptions. Therefore, we aim to determine whether textisms are negatively perceived, whether it is possible to identify a digital usage as a characteristic of Spanish and whether textisms can be considered an element to trigger the evolution of standard writing rules.

2.2. Participants

The subjects of the study were final-year undergraduates in Education Science of the University of Seville (Spain). A simple random sample was taken (*N* = 388 students, academic year 2014–2015), involving 51.05% of the 760 students registered in the final year of the Bachelor's degree. Subjects, at the time that the rating scale was applied, were carrying out final internships in several schools. The average age of the subjects was 22 years (81.2% range 20–23), with 113 (29.1%) males and 275 (70.9%) females.

Table 2
Psychometric indicators (reliability and validity) referred to the scale.

Dimension	Cronbach's alpha	Imbalance measurements				Adjustment measures	
		NRS[a]	Stress I	Stress II	S-stress	DAF	TCC
D1. Links between textisms and orthographical mistakes	.913	.002	.045	.067	.001	.997	.998
D2. Textism use educational repercussions	.920	.002	.048	.068	.003	.997	.998
D3. Textism use in text messages	.968	.004	.068	.154	.005	.995	.997

[a] Normalized Raw Stress.

2.3. Rating scale

From the textism classification in Table 1, a scale was constructed and entitled ''*Textisms and Written Norm in Spanish*''. Designed for undergraduate students of Educational Science, It contained 39 items (37 items with a Likert scale of 1–5, with 1 being strong disagreement and 5 being strong agreement). The objective of the scale was to rate the subjects' opinion of Spanish usage in text messages, how that usage is related to the normative standard Spanish writing rules, and participants' perception of how can it affect standard Spanish learning. This scale dealt with textism types and their evaluation in relation to standard written Spanish, as well as the repercussions of textisms for education, literacy processes, and acquisition of linguistic competence. Therefore, the scale moved from three dimensions established *a priori* and each dimension approached the perception of textisms in Spanish from a different perspective. Dimension 1, which dealt with orthographic mistakes and textisms, sought to indicate whether textisms included in Table 1 were considered orthographic mistakes when written in Spanish texts. Dimension 2, which dealt with textism use and repercussions for education, was intended to determine whether those textisms were thought to induce mistakes in formal texts written by young students (12–16). Finally, Dimension 3 was intended to show the reported frequency of use of each type of textism included in the classification.

The validity of the method used was studied at a theoretical as well as at an empirical level. Regarding theoretical validity, an initial version of the scale was reviewed by five researchers from the Department of Language Didactics of the University of Seville. The scale was assessed and suggestions made were included for its improvement. Empirical validity, i.e., achieved through administering the sampling method, was determined by analysing the construct validity of the scale using the Multidimensional Scaling-PROXSCAL (Borg et al., 2013; O'Hare, 1980; Rodríguez et al., 2014). For this, a proximity matrix was created in such a way that the transformed proximities maintained the same order as the originals. The reliability of each dimension of the different scales was measured by Cronbach's alpha.

After the validity of the scale was analyzed, the four values measuring the stress statistical data imbalance scored close to zero and the two values measuring adjustment scored close to one (Dispersion Accounted For, DAF, and Tucker's coefficient of congruence, TCC). Thus, the results listed in Table 2 show indicators of high adjustment values that ratified the existence of the three dimensions proposed for the structure of the scale. Regarding reliability, the internal consistency of each dimension reached values higher than 0.90 and, in general, for the whole scale a Cronbach's alpha value of 0.97 was reached.

The rating scale was individually administered to subjects through the app Google Forms with no time limit.

3. Results

3.1. Students' perception of textisms

Dimension 1, which refers to the relationship between textisms and orthographic mistakes, showed that generally for the ten variables studied, there was a common perception among males and females. In general, all types of textisms were considered orthographic mistakes with the exception of the use of emoticons, images, audio or video. Dimension 2 refers to the perception of the repercussion that textisms have on the student's education and linguistic competence. In general, for the 11 variables studied in this dimension, a general trend was identified: the continued use of different types of textisms might cause orthographic mistakes in formal texts written by young students (12–16). In any case, this perception was not as categorical in the use of multimodal elements ($\dot{x} = 2.08$). Dimension 3 refers to the reported use of textisms in text messages written by the subjects of this study. Generally, the data showed that subjects reported using textisms in their text messages, especially emoticons, images, audio and video ($\dot{x} = 4.42$), repeated signs and letters ($\dot{x} = 3.98$), and letter omission ($\dot{x} = 3.63$).

Finally, at a descriptive level and referring to the three dimensions of the study, parametric tests were applied to analyze the possible link or interdependence of the variables of the three dimensions with a factor or category, in this case

gender. For this purpose, the hypothesis that gender influences the opinion of the subject was proposed. To test the hypothesis statistically, Student's *t*-test was applied. However, as a condition for executing the test, the normal distribution of the factor was required. Therefore, a random sample was taken in relation to the subject's study (N = 388), to balance male and female subjects, that being 113 males and 113 females (N = 226). The homogeneity of variances of that sample was determined by applying Levene's test.

The results were conclusive in that every variable of the three dimensions, except for that referring to the use of emoticons, images, audio or video *(Mult); for that latter aspect* Levene's test registered a significance higher than .05, fulfilling the requirement of homoscedasticity or homogeneity of variance, and Student's *t*-test showed a bilateral significance higher than .05. Therefore, the hypothesis was not validated, as there were not significant differences between the scores of males vs. females. In the use of multimodal elements no homogeneity of variances was demonstrated (.003 < .005).

3.2. Correlations between textisms

Pearson's product-moment correlation coefficient (N = 388, $*p < .05$, $**p < .01$) was applied to each dimension to test correlations between variables. The data, as well as the links between variables, are described for each dimension.

Within the study of Dimension 1 and its variables, which refer to the relationship between textisms and orthographic mistakes, a correlation appeared between all the dimension variables. That is, for the whole of the variables of this dimension, subjects had a common perception whereby textisms were considered to be orthographic mistakes. This idea coincides with the aforementioned descriptive statistics for Dimension 1. Multimodal elements should be mentioned separately as they showed the lowest correlation of textisms considered to be orthographic mistakes (ρ between .157** and .360**).

Dimension 2 and its variables refer to the perceived impact of textisms on speakers' linguistic competence. A correlation was found among all dimension variables. That is, for the whole of the variables of the dimension, there was a common perception among subjects that the use of textisms may cause young students (12–16) to make orthographic mistakes in their formal written texts. This idea coincides with the aforementioned main descriptive statistics for Dimension 2 (Table 3).

The correlation levels among variables in Dimension 2 were generally higher than those found in Dimension 1. This leads to the idea that subjects, even if they consider textisms to be orthographic mistakes, have an even stronger belief that textisms cause orthographic mistakes in formal texts written by young students (12–16).

The use of emoticons, images, audio or video *(Mult)* is considered the least influential in terms of mistakes made in formal texts, as well as in the correlation with the remaining possible textisms included in the dimension variables (ρ between .167** and .383**).

Finally, the relationship between the variables of Dimensions 1 and 2 showed a generally positive correlation between the two dimensions. These data were consistent with the correlations between textisms of each dimension. Again, the use of multimodal elements as textisms in text messages presented a differentiated position when compared to the rest of the categorized textisms in the study (p = .684**). This position showed the highest correlation rate between the two dimensions, confirming that multimodal elements are less shunned in standard practice (Table 4).

Dimension 3 and its variables referring to textisms presented a general correlation between all those variables. This correlation revealed that subjects who reported the most frequent use of textisms did not show any preference for any of

Table 3
Descriptive statistical data referring to the variables of Dimension 1.

	Male	Female	Total[a] (*n*)	Levene's test[b]	Student's *t*-test[b]
Rep	3.6 (1.47)	3.44 (1.37)	3.52 (1.40)	.516	.590
Short/Contr/Clipp	4.04 (1.3)	4.08 (1.20)	4.07 (1.23)	.219	.632
PunOmi	4.09 (1.08)	4.12 (1.05)	4.11 (1.06)	.886	.964
AccOmi	4.23 (1.13)	4.25 (1.10)	4.24 (1.10)	.337	.985
CapOmi.	4.25 (1.10)	4.34 (1.04)	4.30 (.92)	.386	.841
NonstSpell	4.32 (1.12)	4.32 (1.06)	4.31 (1.06)	.316	.753
Symb/Numb	4.06 (1.24)	3.94 (1.96)	3.98 (1.25)	.918	.415
AccSty	4.43 (.97)	4.41 (.96)	4.42 (.96)	.287	.543
NewWor	3.76 (1.31)	3.62 (1.37)	3.66 (1.35)	.477	.346
Mult	1.77 (1.28)	1.67 (1.04)	1.70 (1.12)	.043	.431

Key: See Table 1.

[a] 388 subjects were included in the sample (275 female and 113 male).

[b] For the development of Levene's and the Student's *t*-tests from an initial sample of 388 subjects and the statistical program SPSS, a random sample was taken in order to balance the number of male and female subjects (226 sample: 113 male and 113 female).

Table 4
Descriptive statistical data referring to the variables of Dimension 2.

	Male	Female	Total[a] (N)	Levene's test[b]	Student's t-test[b]
Missp/Text	4.09 (1.13)	4.10 (0.99)	4.10 (1.03)	.134	.420
Rep	3.85 (1.20)	3.99 (1.04)	3.95 (1.08)	.169	.747
Short/Contr/Clipp	4.03 (1.12)	4.14 (.94)	4.11 (.99)	.289	.617
PunOmi	4.03 (1.07)	4.23 (.88)	4.17 (.94)	.494	.166
AccOmi	4.17 (1.06)	4.36 (.85)	4.12 (1.01)	.199	.278
CapOmi.	4.10 (1.07)	4.13 (.99)	4.32 (1.07)	.884	.866
NonstSpell	4.14 (1.04)	4.31 (.90)	4.26 (.94)	.142	.118
Symb/Numb	3.95 (1.14)	3.97 (1.06)	3.97 (1.08)	.882	.901
AccSty	4.21 (.99)	4.30 (.90)	4.27 (.92)	.828	.600
NewWor	3.73 (1.23)	3.76 (1.20)	3.75 (1.20)	.303	.629
Mult	2.10 (1.43)	2.08 (1.26)	2.08 (1.31)	.567	.981

Key: See Table 1, Missp/Text: textisms cause orthographic mistakes.
[a] 388 subjects were included in the sample (275 female and 113 male).
[b] For the development of Levene's and the Student's t-tests from an initial sample of 388 subjects and the statistical program SPSS, a random sample was taken in order to balance the number of male and female subjects (226 sample: 113 male and 113 female).

them and used them indifferently. Nevertheless, multimodal elements presented a lower correlation with other textisms (ρ between .071** and .361**), suggesting that the subjects of the study may use multimodal elements frequently ($\dot{x} = 4.42$), even if the remaining textisms categorized in Table 1 are not used in the subjects' messages.

Another relevant feature of the Dimension 3 variables is the negative correlation of variables referring to the creation of new lexical units *(NewWor)*, and especially the correlations of the use of multimodal elements *(Mult)* with the variables included in Dimensions 1 and 2. This inverse correlation may suggest that subjects who created new words, used onomatopoeia, non-standard interjections, foreign words, acronyms or initials, and who also used emoticons, images, audios or videos, usually tended to consider different textism types less as orthographic mistakes, and showed less tendency to perceive textisms as harmful for orthography. That is, according to the data, subjects who created new words and used multimodal elements tended to be more tolerant of the use of textisms in text messages created by young students (12–16).

Another noteworthy feature related to Dimension 3 variables is their negative correlation with the variables which refers to the subjects' perception of the use of written accents, punctuation marks, graphemes and capital letters in formal texts. The data suggested that the more accurate the orthography used in formal written texts, the lower the frequency of use of different textisms, although the correlation levels were generally low (Table 5).

Finally, the generally negative correlation presented by the age variable of the subjects with the Dimension 3 variables was examined. The data suggested that the younger the subject, the greater the use of textisms. This is particularly marked in the use of multimodal elements ($\rho = -.275$) and in the use of letters or mathematical signs with their phonetic value ($\rho = -.209$). The data are restricted to Dimension 3 because age did not correlate with the textisms considered in

Table 5
Descriptive statistical data referring to the variables of Dimension 3.

	Male	Female	Total[a] (N)	Levene's test[b]	Student's t-test[b]
Rep	3.88 (1.00)	4.03 (.93)	3.98 (.95)	.758	.569
Short/Clipp	3.56 (1.21)	3.66 (1.18)	3.63 (1.19)	.511	.781
PunOmi	3.37 (1.21)	3.23 (1.30)	3.27 (1.27)	.078	.629
AccOmi	3.16 (1.26)	3.11 (1.26)	3.13 (1.26)	.297	.993
CapOmi	2.78 (1.31)	2.71 (1.39)	2.73 (1.37)	.059	.911
NonstSpell	3.06 (1.39)	2.99 (1.34)	3.01 (1.35)	.884	.361
Symb/Numb	3.00 (1.33)	3.08 (1.28)	3.06 (1.29)	.517	.764
AccSty	2.74 (1.31)	2.37 (1.30)	2.48 (1.31)	.416	.059
NewWor	3.15 (1.33)	3.06 (1.31)	3.08 (1.31)	.794	.948
Mult	4.29 (.90)	4.47 (.66)	4.42 (.74)	.003	.020

Key: See Table 1.
[a] 388 subjects were included in the sample (275 female and 113 male).
[b] For the development of Levene's and the Student's t-tests from an initial sample of 388 subjects and the statistical program SPSS, a random sample was taken in order to balance the number of male and female subjects (226 sample: 113 male and 113 female).

Table 6

Correlation matrix representing Pearson's *r* between variable age and Dimension 3. "Frequency of use of each type of textism" (*N* = 388).

	Dimension 3									
	Rep	Short/Clipp	PunOmi	AccOmi	CapOmi	NonstSpell	Symb/Numb	AccSty	NewWor	Mult
Edad	−.159[**]	−.188[**]	−.093	−.081	−.098	−.116[*]	−.209[**]	−.135[**]	−.163[**]	−.275[**]

[*] *p* < .05.
[**] *p* < .01.

Dimensions 1 and 2; that is, age was not a significant element for considering textisms to be orthographic mistakes or in relation to the orthographic skills of young students (12–16) (Table 6).

Referring to age, participants' perception confirms the results of our previous research (Gómez-Camacho and Gómez del Castillo, 2017) on 529 WhatsApp chats and 38 academic texts in Spanish made by postgraduate students. This piece of research shows that age increase is linked to minor use of textisms, emoticons, images and audios in digital texts sent through instant messaging applications.

4. Discussion

According to the data from this study, it is widely believed that the use of textisms in text message is a threat to the standard writing, as practically all subjects strongly agreed that textisms cause orthographic mistakes in Spanish. In this regard, participants' background and education should be considered as it may influence their perception and, consequently, the results of the study. Paradoxically, this negative evaluation of the practice used in text messages focuses on younger speakers, as pointed out by previous research (e.g. Bouillaud et al., 2007; Plester et al., 2008; Vázquez-Cano et al., 2015), but is not transferred to the perception subjects have of their own messages, since they state that their orthography is almost perfect regardless of the frequency of their use of textisms. This might be explained by the fact that older students distinguish between the mistakes they make due to lack of knowledge (orthographical mistakes) and the non-standard writing of text messages (textisms), but tend not to make this distinction when referring to younger students (12–16).

The fact that textisms were considered orthographic mistakes was expected to be related to their perception as being deleterious to writing competence. In this regard, the results showed that subjects directly associated the use of textisms included in Table 1 with learning problems. An exception to this was presented by multimodal elements appearing in text messages, as they were considered to be less harmful to orthography in written texts ($\dot{x} = 2.08$).

As pointed out in previous research (e.g. Plester et al., 2008; Powell and Dixon, 2011) and by the results of the study, the use of textisms is related to age. Subjects stated that they frequently used textisms, which led them to accept textisms as an intentional departure from standard orthography and tailored to the recipient without any impact on their standard Spanish orthographic skills. Paradoxically, the consideration of textisms as orthographical mistakes harmful to orthography in formal texts is not age related (Dimensions 1 and 2).

On the contrary, no significant relationship between gender and textism usage was demonstrated, coinciding with the previous results regarding the English language (e.g. De Jonge and Kemp, 2012). An exception to this is the use of multimodal elements in text messages, which showed a slightly higher frequency among female subjects. Along the same line, recent studies claim that females use significantly more expressive textisms (e.g. Grace and Kemp, 2015; Kemp and Grace, 2017). Nonetheless, the homoscedasticity value found did not firmly support that assertion.

The most frequently used textisms – repetitions ($\dot{x} = 3.98$) and multimodal elements ($\dot{x} = 4.42$) – proved to be weakly associated with orthographic mistakes. On the contrary, the less frequently used textisms – non-standard letters in Spanish ($\dot{x} = 2.48$) and capital letters and accent omissions ($\dot{x} = 2.73$) – were identified with orthographical mistakes that reflect learning problems. This distinction is consistent with the textism classification suggested in this study and is reinforced by the Cronbach's alpha values for the three dimensions analyzed, supporting the validity of the classification (Table 7).

Textisms related to the creation of new words, onomatopoeia, non-standard interjections, foreign words, acronyms and initials *(NewWor)*, and multimodal elements such as emoticons, images, audios or videos *(Mult)* are good representations of frequency and acceptance. Subjects who used these textisms more frequently proved to show more tolerance of the new form of writing. Results did not confirm the expectation that young students who are educated in digital environments and who use textisms frequently would consider textisms to be intentional departures from standard practice, being inclined to include them as acceptable features. However, this relationship was actually established in textisms that consist of the creation of new words and in new non-verbal linguistic units not used in standard practice. In other words, novelties affecting letters and auxiliary orthographic signs (in phonic and phonologic spheres) are perceived differently from those affecting new lexical units (in a lexical-semantic sphere).

Table 7

Correlation matrix representing Pearson's *r* between variables for Dimension 1. ''Relationship between textisms and orthographic mistakes'' (*N* = 388).

	Missp/Text	1	2	3	4	5	6	7	8	9
1. Rep	.294[**]									
2. Short/Clipp	.313[**]	.551[**]								
3. PunOmi	.221[**]	.439[**]	.618[**]							
4. AccOmi	.269[**]	.466[**]	.598[**]	.719[**]						
5. CapOmi	.257[**]	.423[**]	.622[**]	.626[**]	.685[**]					
6. NonstSpell	.264[**]	.476[**]	.674[**]	.579[**]	.642[**]	.571[**]				
7. Symb/Numb	.293[**]	.539[**]	.739[**]	.638[**]	.645[**]	.643[**]	719.[**]			
8. AccSty	.251[**]	.396[**]	.575[**]	.635[**]	.638[**]	.553[**]	.720[**]	.607[**]		
9. NewWor	.280[**]	.485[**]	.557[**]	.506[**]	.513[**]	.466[**]	.581[**]	.641[**]	.499[**]	
10. Mult	.157[**]	.242[**]	.272[**]	.216[**]	.203[**]	.178[**]	.226[**]	.295[**]	.165[**]	.360[**]

Key: See Table 1.
[**] *p* < .01.

5. Conclusion

The data provided by the present study regarding the usage of Spanish by older students writing digitally, as well as their perception of the influence of this digital usage on standard written Spanish and in the writing skills of young students (12–16) gave rise to several findings. Firstly, undergraduate students assessed textisms negatively when used by younger students (12–16)' in relation to standard Spanish writing. Nevertheless, those older students positively valued textism use – for their own text messages and in relation to their own orthographic skills. This conclusion is consistent with previous research focused on textism usage in Spanish (Gómez-Camacho and Gómez del Castillo, 2017), and with research focused on perception in closely related languages (Gómez-Camacho and Lopes, 2017; Gómez-Camacho et al., 2016).

A clear difference was established between textisms that deviated from standard Spanish writing rules and those that included new elements not included in standard writing. Textisms differing from the standard were less frequently used and were valued negatively, whereas those including new elements were frequently used and generally accepted. It can be stated that multimodal elements included in text messages were not perceived as a threat to standard written Spanish, even if they constituted a novelty. The results showed that speakers who developed lexical textisms and included emoticons, images, and audio and video in their own text messages presented a higher degree of tolerance regarding new ways of writing standard Spanish.

Finally, those textisms affecting the phonetic–phonological aspects in the relation between phonemes and graphemes were seen as a serious threat to younger speakers who are still developing their Spanish orthographic skills. Textisms which break the rules governing the relationship between graphemes and phonemes were perceived as the main problem of the digital norms because such textisms resembled orthographic mistakes made in standard Spanish texts. This conclusion coincides with previous results for French (Bernicot et al., 2014) and with the results of the aforementioned research for Spanish, Portuguese and Italian.

The main conclusion of this study is that, in Spanish, standard and digital norms coexist in daily usage without generating negative perceptions among educated writers assessing their own texts. However, the same writers, who have been educated in a digital environment, hold a negative view of the relationship between orthography and textisms regarding younger writers. However, the positive perception of non-verbal linguistic textisms and new lexical units suggests increasing tolerance and a progressive acceptance of the digital norm by competent speakers in specific contexts.

As mere speculation, it is possible that this positive perception that some young Spanish teachers have shown regarding the use of some textisms could, at some point, influence normative Spanish writing. In Spanish, the Royal Academy of Language defines the linguistic rules as the standard for educated writers. Therefore, the acceptance of some digital writing habits and the abandonment of some writing conventions are undoubtedly a most interesting phenomenon. It must be considered that Spanish norm is ultimately determined by educated speakers' valuation and use; factors that are rapidly changing.

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