

Article

Ke Dise, Mi Arma? Dialectal Varieties in WhatsApp Digital Norm of Andalusian Adolescent Speakers

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Abstract: This article analyzes the written expression in WhatsApp-type instant messaging applications of Andalusian adolescents who are in the last years of compulsory education in Spain. It aims to establish the relationship between the most relevant characteristics of the digital norm used by Andalusian adolescents in their communications through WhatsApp and the dialectal characteristics of their variety of Spanish. Additionally, this study intends to determine whether the writing norm in instant messaging applications influences the standard orthography of Spanish in school texts. A quantitative methodology has been used, analyzing objective data and carrying out a systematic and structured information collection process. A descriptive research design was employed using textual content analysis. The results show that the dialectal linguistic identity of Andalusian adolescent speakers on WhatsApp is mainly identified with suprasegmental linguistic features such as intonation and rhythm. Textisms related to the loss of the intervocalic -d- stand out, as well as those which reproduce the different realizations of the phonemes /s/ and /j/. These features characterize the norm used by adolescent Andalusian speakers and coincide with the features that distinguish their way of pronouncing Spanish. The results show that these textisms are not related to the standard orthography of Spanish and do not cause non-standard orthography.

Keywords: writing; Spanish spelling; instant messaging applications; textism; Andalusian Spanish



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1. Introduction

The communicative practices of contemporary society are shaped by the widespread presence of digital communication. There are many possibilities for interaction in both online and offline contexts that facilitate a broad spectrum of interpersonal communication (Candefors Stæhr et al. 2019). These new communicative practices have changed the focus of literacy studies (Gee 2015), since they are considered “a kaleidoscope of writing styles, each assigned to social situations and identities on the basis of socially shared linguistic and media ideologies” (Busch 2021, p. 298). These social situations are materialized from a communicative point of view through a register, a set of linguistic forms accepted and recognized in a social context that fulfill a communicative function connected to a specific social practice (Ibarra Murillo 2019). Since these new digital communicative practices are predominantly mediated by instant messaging applications (Dixon 2022), digital writing through these applications has become one of the most widely used registers in everyday communicative practices, especially among young Spaniards (IAB Spain-Elogia 2022).

These practices, furthermore, reflect particular identities and allow texters to represent and position themselves through text messages (Tagg et al. 2014). Identity, thus, is constituted and emerges in interaction through the “use of linguistic structures and systems that are ideologically associated with specific individuals and groups” (Bucholtz and Hall 2005,

pp. 593–94). In this regard, young people’s speech forms a “community of practice” as defined by Eckert (2009, p. 109):

a social grouping not in virtue of shared abstract characteristics (e.g., class, gender) or simple copresence (e.g., neighborhood, workplace), but in virtue of shared practice. In the course of a regular joint activity, a community of practice develops ways of doing things, views, values, power relations, ways of talking.

In this community of practice, *digital writing* is a demonstration of digital identity “typically performed with an expectation of cognitive reward, especially by young users” (Yus 2022, p. 65). Young text-messengers manipulate conventional discursive practices with linguistic creativity and communicative competence in their pursuit of intimacy and social intercourse, engaging in an explicitly relational orientation that is aimed at “making social arrangements, friendly salutations [and] friendship maintenance” (Thurlow and Brown 2003). This manipulation of the writing norm based on linguistic creativity also involves the use of dialectal features which are not present in other written registers (Candefors Stæhr et al. 2019).

In sum, the aim of this study is to analyze the dialectal varieties in the digital norm used by Andalusian adolescent speakers on WhatsApp and their relationship to the academic orthography of their school texts. To this end, we intend to explore the most relevant features of the digital norm used by Andalusian adolescent speakers in their communications through WhatsApp and to determine whether there is a relationship between the digital norm of Andalusian adolescents and their dialectal variety. Furthermore, we intend to investigate the relationship between dialectal varieties in the digital norm used by Andalusian adolescent speakers on WhatsApp and non-standard orthography in their school texts.

1.1. Youth Speak in Southern Spain

Identity categories are organically linked to linguistic systems such as languages or dialects (Bucholtz and Hall 2005). As Coupland (2002) states, “to speak through a particular dialect is to offer the interpretation of speaking from a particular cultural and social position” (p. 204). In the specific case of the variety of Spanish spoken in Andalusia, the relationship between the regional variety and the concept of identity is particularly strong (Narbona Jiménez 2009). The identification of a particular way of speaking in the south of Spain with certain social or ethnic characteristics appears as early as the late Middle Ages, with a linguistic stereotype based on the stigmatization of certain characteristics of southern speech (Cano Aguilar 2009) continuing up to the present day. This relationship is clearly visible in the speech of young people which is sociolinguistically determined on the basis of a system of shared values that reinforce their social and cultural system (Rodríguez González 2002; Villena-Ponsoda and Vida-Castro 2020). Although young Andalusians consider other varieties of Spanish, such as the Castilian variety, to be more prestigious, they identify affectively with the Andalusian dialect, the variety they use in their daily communication (Manjón-Cabeza Cruz 2018; Santana Marrero 2020; Santos Díaz and Ávila Muñoz 2021). Furthermore, young Andalusians show a high level of awareness of their differential linguistic reality as a sign of identity (Santana Marrero 2018).

The Andalusian dialect is part of a wider dialectal variety called Southern or Atlantic Spanish. This variety is strongly characterized by its phonetic and phonological features, which clearly differentiate it from other Spanish dialects. Its morphological-syntactic characteristics, however, barely differ from standard Spanish (Moreno-Velarde Pérez 2009). Firstly, the Andalusian dialect shares four phonological features with other varieties of southern Spanish: *yeísmo* (dephonologization of lateral palatal /ɮ/ and merging into central palatal /j/), *seseo* and *ceceo* (neutralizations of /s/-/θ/ favoring the first or the second phoneme, respectively), the alteration of consonants in implosive position (lateralization of /r/, rhotacism of /l/, assimilations, and aspiration of /s/) and the weakening and aspiration of the voiceless velar fricative /x/ which becomes glottal /h/. However, these features are manifested in heterogeneous forms and with their own dynamics and develop

different faces throughout the Andalusian territory. For this reason, these features reach an “intensity and social height” that endow the Spanish spoken in Andalusia with a “strong personality” compared to other varieties of Southern Spanish (Moreno-Velarde Pérez 2009, pp. 141–42). Secondly, the Andalusian dialect is recognized for its characteristic rhythm and intonation. As Narbona Jiménez et al. (2022, p. 165) point out, the Andalusian dialect has “a faster and more varied intonational rhythm” than other peninsular varieties of Spanish, such as Northern and Central Castilian. This rhythm alters the distribution of the exhalation force of the sounds, pushing forward the phonation organs and causing “somewhat more high-pitched sounds than those habitual in the Spanish of both Castilian varieties”. These suprasegmental features are clearly perceived as differential elements of Andalusian speech and provoke a series of specific phonetic–phonological characteristics, the isoglosses of which are irregularly distributed throughout the Andalusian territory. Among the distinctive features of the Andalusian dialect, we can find fricativization of the voiceless postalveolar affricate /tʃ/, maintenance of the aspiration of the Latin initial F-, a change of the quality of the vowels, and phonophagy or a tendency to omit sounds (Table 1). This diversity gives the Andalusian dialect a richness rooted precisely in its internal complexity (Jiménez Fernández 1999).

Table 1. Phonological characteristics of Andalusian dialects.

Shared with other Southern Spanish Varieties	
Dephologization of lateral palatal /ɫ/ (<i>yeísmo</i>)	<i>calló</i> “he shut up”: [kaǰó] instead of [kaɫó]
Neutralizations of /s/-/θ/	<i>cosa</i> “thing”: [kóθa] instead of [kósa] (<i>ceceo</i>) <i>cereza</i> “cherry”: [serésa] instead of [θeréθa] (<i>seseo</i>)
Alteration of consonants in implosive position	<i>alcalde</i> “mayor”: [arkáɫde] instead of [alkaɫde] <i>cuerpo</i> “body”: [kwéɫpo] instead of [kwérpo] <i>carne</i> “meat”: [ká:n:e] instead of [kárne]
Aspiration of voiceless velar fricative /x/	<i>tijeras</i> “scissors”: [tihéras] instead of [tixéras]
Specific to Andalusian varieties	
Fricativization of the voiceless postalveolar affricate /tʃ/	<i>coche</i> “car”: [kóʃe] instead of [kótʃe] <i>chico</i> “boy”: [ʃíko] instead of [tʃíko]
Maintenance of the aspiration of the Latin initial F-	<i>higo</i> (lat. FICU) “fig”: [híʝo] instead of [íʝo]
Change in vowels quality	<i>pocos</i> “few”: [pókɔ]—[pókoh] instead of [pókos]
Phonophagy	<i>cansada</i> “tired”: [kansá] instead of [kansada] <i>migajita</i> “crumb”: [mixíta] or [mjaxíta] instead of [miyaxíta]

1.2. Young People’s Speech and Identity in Digital Communication

Young people’s communication practices are deeply mediated by digital communication and the widespread adoption of instant messaging applications (Yus 2022). The result of these emerging practices has been the creation of a new written code called *digitalk* (Turner 2010) or *textese* (Johnson 2015). Thurlow and Brown (2003) recognize three basic characteristics of *digitalk* that constitute its principle of sociality: (1) brevity and speed (lexical abbreviation, insignificant use of punctuation, etc.) (Example 1a); (2) paralinguistic restitution (use of capitals with emphasizing function, etc.) (Example 1b); and (3) phonological approximation (reproduction of informal speech features) (Example 1c). Traditionally, this new writing practice has been described with reference to the standard writing norm. Previous research has highlighted the presence of textisms, defined as “contractions and nonstandard spellings specifically developed to reduce the length of words for fast and cost-effective text messaging”, as one of its defining features (De Jonge and Kemp 2012, pp. 49–50).



- (1) a. No echamo *uno ahora o después de come*
Shall we play a game now or after lunch?
- b. *La mato. NO TE CREOOO*
I kill her. I can't believe you.
- c. *A vale okay pos medio estudio xd*
Ah, right, ok, so I study half of it.

Textisms can be classified into three categories (Gómez-Camacho et al. 2018). The first category is graphophemic textisms, based on the discrepancy between phonemes and graphemes, such as emphatic repetitions, deletions, and omissions; the second category is lexical-semantic textisms, characterized by the use of dialectalisms and foreign words or the creation of new words; and the last category is multimodal textisms, with the use of emoticons, emojis, videos, images, gifs, or stickers (Table 2):

Table 2. Categorization of textisms (Gómez-Camacho et al. 2018).

Textisms at the Grapho-Phonematic Level	
<p>Emphatic Repetitions</p> <ul style="list-style-type: none"> -Repetition of closing marks -Repetition of one or more letters -Emphatic repetition interjection or onomatopoeia <p>Deletions and omissions</p> <ul style="list-style-type: none"> -Words merging -Non-normative use of capital letters -Word shortening by removing letters or syllables -Omission of punctuation marks -Omission of tildes -Intentional omission of H -Loss of the intervocalic D 	<ul style="list-style-type: none"> - <i>Q nota te ha puesto en el trabajo??</i> What grade did he give you in the homework? - <i>en principio siiii, Sisi graciaiiassss</i> In principle, yes—Yesyes thank you - <i>Bueno bueno, sisii, ouuch</i> Well well, yesyes, ough - <i>xdio, Qsi he estudiado</i> Goodness, [Do you ask] if I have studied - <i>NECESITO q pongan ya las listas</i> I need the lists to be posted already - <i>Es q no me acuerdo mu bien</i> I just don't remember very well - <i>Q t an traio los reyes?</i> What did Santa bring you? - <i>Estas preparada para mañana?</i> Are you ready for tomorrow? - <i>Sii ya le emos dao el regalo</i> Yes, we have already given her the gift. - <i>Y encima se a olvidao la mochila</i> And he also forgot his backpack
<p>Non-normative graphemes</p> <ul style="list-style-type: none"> - K-textisms - X-textisms - S-textisms - Z-textisms - SH-textisms - TX-textisms - W-textisms - Y-textisms - Textisms of numbers and symbols with their phonetic value 	<ul style="list-style-type: none"> - <i>no pdo kea</i> I can't meet - <i>xurra, muxo</i> mate, many - <i>grasia grasia</i> thanks thanks - <i>ez', zi, paza</i> that, yes, pass - <i>Ashe friooo</i> It's cold - <i>txika,</i> girl - <i>Weno te deajo ads xD, wuapetona</i> well, I'll leave you, bye, pretty - <i>iya ntr</i> girl, come in - <i>Xq', Xfa</i> why, please

Table 2. Cont.

Textisms at the lexical-semantic level	
- Dialectalisms	- <i>Miarma</i> My soul (dude)
- Transcription of diatopic, diastratic and diaphasic varieties	- <i>Oma quiero tortilla</i> mom, I want an omelette
- Creation of new words, non-normative onomatopoeias or interjections, amalgams or conglomerates	- <i>awwww</i> Augh
- Foreign words	- <i>lol, ese gym esta wuapo o q?</i> Lol, that gym looks cool, doesn't it?
- Non-normative acronyms, abbreviations and acronyms	- <i>ntr (no te ralles), oka</i> don't worry, ok
Textisms at the multimodal level	
Emoticons, images, audios, videos, stickers	 

As a result of this, *digitalk* combines elements of written discourse with orality features (Calero 2014; Silva Alcántara 2015), intending to reproduce the “voice of the speaker” (Turner 2010, p. 43) through creativity and the proficiency of the language for communicative purposes (Vázquez-Cano et al. 2015). In fact, *digitalk* has sometimes been called “oralized writing” (Martín Gascuña 2016), “oralised written text” (Yus 2010) or “written spoken language” (Mancera Rueda and Alamán 2013). Because of this closeness to spoken language, Wentker (2018) remarks that *digitalk* presents an extraordinary similarity to natural conversation and, therefore, it is open to new linguistic forms. As Yus (2022, p. 73) points out, smartphone discourse is “dynamic, unplanned, informal, innovative, and orthographically challenging so as to compensate for the lack of physical co-presence and for other interactional purposes”. For this reason, *digitalk* reveals a more non-conformist and innovative linguistic behavior (Verheijen 2017). The following examples show this innovative linguistic behavior through the use of alphanumeric homophones (example 2a) or slang words (example 2b), sometimes in the same textism (example 2c).

- (2) a. *Eee con Z no t meta q te doi*
Hey, don't mess with *that one* or I'll hit you.
- b. *Pues a farmear*
So let's *farm* [kill enemies].
- c. *Veniros d1 [de una]*
Come, *of course*.

Digitalk has been considered a threat to the development of adolescent spelling competence. De Jonge and Kemp (2012), Drouin (2011) and Drouin and Driver (2014) have pointed out the negative effects of *digitalk* on morphological awareness, reading accuracy, or vocabulary in children and adolescents. However, other studies highlight that there is no negative correlation between *digitalk* and literacy skills among youngsters and adolescents in other languages (Van Dijk et al. 2016; Verheijen et al. 2020; Verheijen and Sporeen 2021 for Dutch; Wood et al. 2011 for English; Lanchantin et al. 2015 for French). In the case of Spanish, although teachers and trainee teachers have a negative perception of the effects of *digitalk* on literacy skills (Cremades et al. 2021), various studies report a more tolerant attitude toward textisms and a greater awareness of *digitalk* as a code restricted to certain smartphone-mediated communicative contexts (Gómez-Camacho et al. 2018; Hunt-Gómez et al. 2020; Núñez-Román et al. 2021). In addition, Gómez-Camacho and Gómez del Castillo (2017) show no relation between *digitalk* and an increase in spelling mistakes in formal texts among Spanish postgraduate students. Similar contrasting results are found in the relationship between gender and the use of textisms. Although some research does not find significant gender differences (De Jonge and Kemp 2012), there is a broader agreement that young female adults use more textisms in their digital communications than their male

counterparts (Adams et al. 2018; Grace and Kemp 2014; Lyddy et al. 2014; Kemp and Grace 2017; Rosen et al. 2010; Tossell et al. 2012).

The traditional conception of *digitalk* as deviant writing when compared to standard writing impoverishes the analysis of this writing practice since it does not consider “a more complex view of situated and pluralized writing norms and the formation of these writing norms on the basis of socially shared linguistic ideologies” (Busch 2021, p. 300). In contrast, *digitalk* is related to the processes of de-standardization inherent in the new vernacular writing practices linked to digital contexts. Androutopoulos (2011) emphasizes that this de-standardization is based on a change of status whereby standard writing loses part of its normative character and is replaced by a set of regional standards; that is, a set of smaller-scale conventions replaces the standard norm, “often limited to particular networked groups and their online platforms” (p. 156). Example 3 shows how digital writing is constructed within a social group which sets its own standard based on shared experiences and codes.

- | | |
|---|--|
| - Alguien esta despierto | - Is anyone awake? |
| - Yo | - I (am awake) |
| - Po amo a juga ala pley oque | - So are we going to play PlayStation or what? |
| - Enga | - Come on |
| - Invita tu | - You’re buying |
| (3) - Ya estoy unio gilipollaa | - I’m already connected, asshole |
| - Carlo conecatte un rato | - Carlo, get online for a while |
| - Noseas mierda | - Don’t be a shit |
| - Eso es | - That’s it |
| - Con una mano y los ojos tapados te ganp | - I’ll beat you one-handed and blindfolded |
| - Hay tas motivao un poo | - Today you’re motivated a little bit |

1.3. Digitalk and Dialect Variation

Since online interactions seem to “reproduce norms connected to speaking and writing dialect” (Candefors Stæhr et al. 2019), it is possible to observe that some of these *digitalk* textisms in Spanish are coincident with the dialectal features of the Andalusian dialect. As we have previously noted, the Andalusian dialect is characterized by a series of phonological features that are clearly recognized by the speakers themselves as hallmarks of the southern speaker (Table 3), although these features are not exclusive to the Andalusian dialect in all cases (Narbona Jiménez et al. [1998] 2011). These textisms, furthermore, try to reproduce a phonetic orthography in accordance with orality and, consequently, reflect the distinctive intonation and rhythm of the Andalusian dialect.

Table 3. Correspondences between textisms and dialectal phonological features in Andalusian.

Textisms	Phonological Features
- S-textisms - Z-textisms	Neutralizations of /s/-/θ/: <i>coza</i> instead of <i>cosa</i> “thing” (<i>ceceo</i>) or <i>seresa</i> instead of <i>cereza</i> “cherry” (<i>seseo</i>)
- SH-textisms - X-textisms	Fricatization of the voiceless postalveolar affricate /tʃ/: <i>coshe</i> instead of <i>coche</i> “car”, <i>xico</i> instead of <i>chico</i> “boy”
- Y-textisms	Dephonologization of lateral palatal /ɬ/: <i>iyó</i> instead of <i>[chiqu]illo</i> “kid”
- Loss of the intervocalic D	Shortening of words by removing letters or syllables: <i>cansao</i> instead of <i>cansado</i> “tired”
- Deletions and omissions	Phonophagy: <i>cantá</i> instead of <i>cantar</i> “to sing”

In summary, this paper aims to establish the relationship between the most relevant features of the digital norm employed by Andalusian adolescents in their communications through WhatsApp and the dialectal peculiarities. Furthermore, this study intends to

examine whether the writing norm in instant messaging applications has an influence on the standard orthography of Spanish in school texts.

2. Materials and Methods

In this study, a quantitative methodology has been used, analyzing objective data and carrying out a systematic and structured information collection process (Bloomfield and Fisher 2019). A descriptive research design was carried out through textual content analysis (Neuendorf 2017; Pérez-Paredes 2020).

In order to select those subjects with the necessary characteristics for participation in the study, a non-probabilistic and intentional sampling was carried out (Lohr 2021). The final sample consisted of 206 students who were in the last two years of Compulsory Secondary Education. A total of 45.1% were in the third year and 54.9% were in the fourth year. Regarding the sex of the students, 85 were boys (41.3% of the sample) and 121 were girls (58.7% of the sample).

Twelve secondary schools in the Autonomous Community of Andalusia participated in the study. Table 4 shows the list of educational centers, the Andalusian provinces where they are located, and the number of students in each institution.

Table 4. Location of the sample.

Student Participants				
Location	Province	Frequency	Percentage	Total Number of Words Analyzed
Secondary School 1 Burguillos	Seville	4	1.9	877
Secondary School 2 Sevilla	Seville	15	7.3	
Secondary School 3 Dos Hermanas	Seville	43	20.9	13,652
Secondary School 4 Casabermeja	Malaga	28	13.6	7181
Secondary School 5 Priego de Córdoba	Cordoba	11	5.3	
Secondary School 6 Alcalá de Guadaíra	Seville	16	7.8	
Secondary School 7 Sevilla	Seville	6	2.9	
Secondary School 8 Motril	Grenada	18	8.7	
Secondary School 9 Alcaudete	Jaen	20	9.7	
Secondary School 10 Moguer	Huelva	12	5.8	
Secondary School 11 Sanlúcar	Cadiz	21	10.2	5986
Secondary School 12 Valdepeñas	Jaen	12	5.8	
	Total	206	100	56,176

Student Participants				
Location	Province	Number	Percentage	Total Number of Words Analyzed
Secondary School 1 Burguillos	Seville	4	1.9	877
Secondary School 2 Sevilla	Seville	15	7.3	4198
Secondary School 3 Dos Hermanas	Seville	43	20.9	13,652
Secondary School 4 Casabermeja	Malaga	28	13.6	7181
Secondary School 5 Priego de Córdoba	Cordoba	11	5.3	2607
Secondary School 6 Alcalá de Guadaíra	Seville	16	7.8	4912
Secondary School 7 Sevilla	Seville	6	2.9	1312
Secondary School 8 Motril	Grenada	18	8.7	3003
Secondary School 9 Alcaudete	Jaen	20	9.7	6413
Secondary School 10 Moguer	Huelva	12	5.8	3517
Secondary School 11 Sanlúcar	Cadiz	21	10.2	5986
Secondary School 12 Osuna	Seville	12	5.8	2518
	Total	206	100	56,176

The units of analysis for the study were, on the one hand, representative messages from the students communicating through WhatsApp. Each participating subject selected around 20 personal messages from different conversations and addressed to different interlocutors which they considered characteristic of their form of expression and discourse on this app. On the other hand, academic texts by the same students from classroom activities and notes on other subjects were also analyzed.

From the WhatsApp messages collected, the following variables described in Table 2 were analysed: Total number of textisms, Words merging, Word shortening, Loss of intervocalic -D-, X-textisms, S-textisms, Z-textisms, SH-textisms, TX-textisms, and Y-textisms. The variable total number of instances of non-standard orthography in academic texts was also analysed.

Data analysis was performed using the IBM SPSS v.27 statistical package. Descriptive statistics were extracted (minimum, maximum, mean, standard deviation and variance). Given that the distribution of the variables did not comply with the principle of normality of the sample, nonparametric co-relational analyses (Spearman’s Correlation Coefficient) and statistical hypothesis testing (Mann Whitney U) were performed.

3. Results

3.1. Descriptive Analysis

The textisms found in the WhatsApp messages in each category of the 206 participating students were recorded, as was the non-standard orthography used by these same students in the academic texts. The results of the descriptive analysis are shown in Table 5.

Table 5. Descriptive analysis of the study variables.

Variables	Minimum	Maximum	Mean	Standard Deviation	Variance
Words merging	0	15	2.77	3.023	9.136
Word shortening	0	66	10.25	10.582	111.975
X-textisms	0	3	0.03	0.240	0.058
S-textisms	0	3	0.16	0.509	0.259
Z-textisms	0	2	0.02	0.183	0.034
SH-textisms	0	1	0.00	0.070	0.005
TX-textisms	0	0	0.00	0.000	0.000
Y-textisms	0	5	0.16	0.583	0.340
Loss of intervocalic -D-	0	9	0.75	1.432	2.051
Total number of textisms	0	117	30.37	19.501	380.283
Total number of instances of non-standard orthography in the academic text	0	44	5.13	6.222	38.710

Table 5 shows that, apart for the “Total number of textisms”, which would be a variable resulting from a sum, the textism that obtained the highest arithmetic mean value by far was “Word shortening” (Examples 4a–4b); however, the variance is also very high in this variable (=10.25; S2 = 111.975). This is followed by “Words merging” (=2.77; S2 = 9.136) (Example 5a–5b).

The rest of the textisms analyzed have obtained mean values lower than unity. Among these, the most frequent textisms in students’ WhatsApp texts are “Loss of intervocalic -D-“ (=0.75; S2 = 2.051) (Examples 6a-6b), “K-textisms” (=0.33; S2 = 1.206) (Example 7a-7b), “S-textisms” (Example 8a) and “Y-textisms” (Example 9a-9b) whose arithmetic mean values are (=0.16; S2 = 0.259 and S2 = 0.340 respectively). The textisms with the lowest occurrence were “SH-textisms” (=0.00; S2 = 0.005) (Example 10a) and “TX-textisms” (with no occurrence in the texts analyzed).

The “Total number of instances of non-standard orthography in the academic text” obtained a mean of 5.13 and a variance of 38.710 (Example 11a).

- (4) a. *Vente pa [para] mi casa sobre las 5 menos algo*
Come to my house at about 5:00 to 5:00.
b. *Si esq es vdd [verdad]*
It's true
- (5) a. *Esque la nota ma [me ha] mencionao en el directo*
It's just that the dude *has* mentioned *me* in the live show.
b. *Noo digual [da igual]*
No, it doesn't matter.
- (6) a. *Esperao aparcaos [aparcados] que Blanca tiene que sali*
Wait *parked*, Blanca has to go out.
b. *Es que he probao [probado] otras apps y es que van un poco mal*
I've tried other apps and they are not working well.
- (7) a. *Pero tú le dices k [que] no las dicho*
But you tell him *that* you didn't say it.
b. *me puede dexcir lo q kae [cae] en el exmen please?*
can you tell me what *is on* the exam please?
- (8) a. *Equip roja y blanca no? Es desir [decir] que pa los que no tenemos nos llevamos por siacaso camiseta roja y blanca no?*
Red and white kit, no? *I mean* that for the players who do not have a red and white jersey, we take it with us just in case, right?
- (9) a. *Iyo [-chiqu-illo] k t kea socio*
Boy, what's left for you, buddy?
b. *Ya [Ya ha] yegao [llegado]*
She/He has *arrived*
- (10) a. *Ashe [Hace] friooo*
It's cold.
- (11) a. *Esta imagen esta echa [hecha] en un campo donde se observan campos de cultivo*
This image is *taken* in a field where crop fields can be seen.

3.2. Correlational Analysis

The Spearman's Correlation Coefficient (SCC) was used in the correlational study, given that the distribution of the samples of the variables analyzed does not comply with the principles of normality. This is a non-parametric measure of rank correlation. It identifies the statistical dependence of the ranking between two variables. It measures the strength and direction of the association between two ranked variables. In this sense, we can identify whether there is a relationship between two variables, whether causal or not. Correlational analysis is conducted to verify whether the different textisms related to dialectal phenomena show positive correlations, which would indicate that the digital writing norm reflects the dialectal varieties of the participants. Table 6 shows the results of the correlational analysis of the most relevant textisms.

The results show that there are multiple positive correlations between the textisms variables analyzed. The strongest correlation is found between the variables "Word shortening" and "Words merging" with a correlation of 0.719 and a confidence level of 99%. Then, moderate correlations are observed between the variable "Loss of intervocalic -D-" and the variables "Word shortening" (0.451) and "Words merging" (0.392); between the variable "Y-textisms" and the variables "S-textisms" (0.375) and "Word shortening" (0.347); and between the variable "Z-textisms" and the variable "S-textisms" (0.308). All with a significance level of 99%. There are other variables with a significant and positive but weak correlation (less than 0.3). Although they are not as strong as those described above, they may be a sign of a trend.

The data show that the variables with five positive and significant correlations are: "Words merging", "X-textisms", "S-textisms", and "Y-textisms". In contrast, it should be noted that "SH-textisms" are the only ones that do not have any significant correlation with the rest of the variables analyzed. "TX-textism" was not analyzed because it did not present a sufficient frequency for the correlational analysis.

Table 6. Correlational analysis of the textism variables using Spearman’s Correlation Coefficient.

		Words Shortening	X-textisms	S-textisms	Z-textisms	SH-textisms	Y-textisms	Loss of -D-
Words merging	SCC	0.719 **	0.100	0.0258 **	−0.004	0.004	0.282 **	0.392 **
	Sig.	0.000	0.154	0.0000	0.949	0.959	0.000	0.000
Words shortening	SCC	1.000	0.161 *	0.0266 **	0.087	0.041	0.347 **	0.451 **
	Sig.	.	0.021	0.000	0.215	0.557	0.000	0.000
X-textisms	SCC	.	1.000	0.295 **	−0.020	−0.010	0.195 **	0.231 **
	Sig.	.	.	0.000	0.778	0.889	0.005	0.001
S-textisms	SCC	.	.	1.000	0.308 **	−0.023	0.375 **	0.292 **
	Sig.	.	.	.	0.000	0.737	0.000	0.000
Z-textisms	SCC	.	.	.	1.000	−0.010	0.067	0.039
	Sig.	.	.	.	.	0.889	0.336	0.573
SH-textisms	SCC	.	.	.	.	1.000	0.204 **	−0.047
	Sig.	.	.	.	.	.	0.003	0.503
Y-textisms	SCC	.	.	.	.	.	1.000	0.236 **
	Sig.	.	.	.	.	.	.	0.001

** . Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed).

Finally, Table 7 shows the data relating to the correlational analysis of the variable number of instances of non-standard orthography in the academic text with the textisms found in the WhatsApp texts. The results show that there is no significant relationship between non-standard orthography and any of the textisms found, since the null hypothesis of equality is rejected because the p-value is greater than 0.05.

Table 7. Correlational analysis of the textisms variables with the No. of non-standard orthographic features in academic text, using Spearman’s Correlation Coefficient.

	No. of Non-Standard Orthographic Features in Academic Text	
Words merging	SCC	−0.012
	Sig.	0.863
Word shortening	SCC	−0.064
	Sig.	0.361
X-textisms	SCC	0.036
	Sig.	0.606
S-textisms	SCC	0.056
	Sig.	0.424
Z-textisms	SCC	−0.013
	Sig.	0.855
SH-textisms	SCC	0.039
	Sig.	0.578
Y-textisms	SCC	−0.048
	Sig.	0.489
Loss of intervocalic -D-	SCC	−0.050
	Sig.	0.476

3.3. Contrast Analysis

In the contrast study of the variables according to sex, the Mann–Whitney U statistic was used. This statistic is used to compare two sample means and test whether they are equal or not. It compares the mean scores of an independent variable (in our case, sex) and a dependent variable (textisms and non-standard orthography), assuming that the differences in the mean score of the dependent variable are caused by the independent variable. Table 8 shows the results of the contrasts performed.

Table 8. Contrast analysis of study variables with the sex variable through the Mann Whitney U statistic.

Variables	Mann-Whitney U	Z	Asymp. Sig. (2-Tailed)
Total number of textisms	4593.000	−1.305	0.192
Words merging	4577.000	−1.363	0.173
Word shortening	5119.000	−0.056	0.955
K-textisms	4673.000	−1.872	0.061
X-textisms	5003.000	−1.386	0.166
S-textisms	4899.500	−1.099	0.272
Z-textisms	5003.000	−1.386	0.166
SH-textisms	5100.000	−0.838	0.402
TX-textisms	5142.500	0.000	1.000
Y-textisms	5081.000	−0.284	0.776
Loss of intervocalic -D-	4724.000	−1.202	0.229
Total number of instances of non-standard orthography	4692.500	−1.075	0.282

Note: Grouping variable: Sex.

As shown in Table 8, the results of the study reveal that there are no differences depending on the variable “Sex” in any of the variables used, with a confidence level of 99%. The null hypothesis of equality of means is accepted in all variables by obtaining a p-value greater than 0.05; that is to say there are no statistical differences between men and women in the use of textisms in WhatsApp texts. Similarly, it is noteworthy that no differences are observed in relation to sex in the variable related to the number of instances of non-standard orthography in the academic text.

4. Discussion and Conclusions

The aim of this study was to analyze the dialectal varieties in the digital norm used by Andalusian adolescent speakers on WhatsApp and the relationship to the academic orthography of their school texts.

The digital norm used by Andalusian adolescents participating in the study is characterized by the use of textisms related to their dialectal pronunciation of Spanish. The most relevant phenomena in the writing of these messages sent through instant messaging applications with a smartphone are words merging and shortening. In our opinion, these textisms intentionally reproduce in writing both the weakening and loss of final consonants and the faster rhythm of word articulation. These two textisms correlate with each other in a very significant way and are shown to be the most relevant feature of the dialectal identity of Andalusian adolescent students on WhatsApp. This result is congruent with the characterization of the Andalusian dialect provided by [Narbona Jiménez et al. \(2022, p. 106\)](#) who identified the “personality of Andalusian pronunciation” with a fast and varied rhythm which is now reflected in the digital writing of WhatsApp messages using the conventions of an oralized writing.

Furthermore, these textisms are not at a phonetic and phonological level, so they do not alter the traditional relationship between phonemes and graphemes of the standard orthography of Spanish. In conclusion, we can affirm that the dialectal linguistic identity of Andalusian adolescent speakers on WhatsApp is mainly associated with suprasegmental linguistic features, transferred to smartphone-mediated writing through the merging and shortening of words. This conclusion confirms previous studies, such as that of [Vázquez-Cano et al. \(2015\)](#), who state that “the most relevant fact of digital writing on WhatsApp is the suprasegmental enrichment” (p. 101) in the Spanish language.

Regarding phonetic and phonological textisms, the textisms related to the loss of the intervocalic -D- stand out, as do the textisms which reproduce the different realizations of the phoneme /s/ in Andalusian dialectal speakers, which are transcribed as S-textism, X-textism, and Z-textism. It is also noteworthy that the intentional orthographic *yeísmo* which neutralizes the opposition between the phonemes /j/ and /ʎ/ into a single /j/. These textisms coincide with the phonetic features that [Narbona Jiménez et al. \(2022\)](#)

identify with the “linguistic awareness of the Andalusians” which is summarized in “the alteration of the timbre of /s/, (...) the loss of certain consonants between vowels -especially d-, the aspiration of syllable-final consonants, *yeísmo* and others” (p. 167).

These dialectal features have been widely acknowledged in the literature as essential in the description of Andalusian variety at the phonetic level (e.g., Jiménez Fernández 1999; Narbona Jiménez et al. [1998] 2011; Villena-Ponsoda and Vida-Castro 2020). Consequently, we can conclude that the writing norm used in WhatsApp by Andalusian adolescents also reproduces the main phonetic phenomena of their dialectal variety; they are also reflected in writing through textisms that alter the relationship between phonemes and graphemes in the standard orthography of Spanish. The relationship between oral pronunciation and digital writing in WhatsApp has been confirmed for general Spanish by the studies of Silva Alcántara (2015), Vázquez-Cano et al. (2015), and Yus (2022), among others.

Our results do not show the written representation of the fricatisation of /tʃ/ among the features that determine the digital identity of the participating students since SH-textisms and TX-textisms are almost non-existent in the sample. As Narbona Jiménez et al. (2022, p. 196) point out, this feature is localized in very specific geographical areas and is more characteristic of those who want to imitate the Andalusian accent than of Andalusian speakers. However, it is one of the textisms used in the digital norm in Spanish (Gómez-Camacho et al. 2018, p. 94), and it is widely used, for example, in the WhatsApp writing text of Basque teenagers of the same age (Ibarra Murillo 2019).

In our opinion, the participants in the study reproduce in non-normative digital writing those oral dialectal features with which they identify, as observed by Calero (2014); in addition, the data do not show other textisms which are foreign to their linguistic identity, confirming that the digital (textese) norm is part of the representation of adolescents in text messages (Tagg et al. 2014, p. 221).

The second objective was to analyze the relationship between the dialectal variety in the digital norm used by Andalusian teenagers on WhatsApp and non-standard orthography in their school texts. The results of the study show that these textisms are not related to the standard orthography of Spanish. These results are consistent with the studies of Gómez-Camacho et al. (2018) and Núñez-Román et al. (2021) for the Spanish language, as well as with Wood et al. (2011), Lanchantin et al. (2015), Verheijen et al. (2020), and Verheijen and Spooren (2021) for other European languages.

Regarding the influence of gender, we found no differences in the sample between male and female students in the use of *digitalk* in WhatsApp or in its relationship to non-standard orthography. The study by Gómez-Camacho and Gómez del Castillo (2017, p. 1091) reached a similar conclusion for young Andalusian university students. Overall, despite differences in the literature on this point, our results are congruent with the study by Adams et al. (2018) who concluded that “females and males used textisms equally” (p. 486). The limitation of the sample to adolescents between 14 and 17 years old, who were in the last stage of compulsory education in Spain, prevented us from studying the age variable in relation to the objectives of the study.

The findings of the study point to the close relationship between *digitalk* and orality in the Spanish language, in contrast to other written varieties more conditioned by the standard writing norm (Martín Gascueña 2016). Adolescent dialectal speakers in southern Spain use their own norm in the messages they send through instant messaging applications on their smartphones, portraying their digital identity. From a sociolinguistic perspective, it is identified with the linguistic styles in continuous and “lifelong projects of self-construction and differentiation” described by Eckert (2012, pp. 97–98).

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