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The use of emojis by Millennials

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Abstract: The use of emojis has been increasing during the last years. Six billion of emojis are used every day. In addition, emojis, which originally were only present on the Internet, started to invade the offline world too. Nowadays, emojis are an essential tool of communication. Since communication is essential in our daily life, it is important to understand how individuals are adapting to the new communication context.

Thus, we used data from a survey conducted among Millennials by the online fieldwork company Netquest in Spain and Mexico (n=1,614) to answer some of the main questions regarding the use of emojis. In which contexts millennials use emojis? How many emojis do they use? Why? To express what? Do they interpret them similarly?

Overall, results show that Millennials use emojis primarily in dialectical contexts, with a higher use in instant messages. Moreover, they use emojis more frequently with closest or similar age interlocutors. Besides, although emojis are mainly used to communicate emotions, there are clear differences in the interpretation of some emojis. Finally, cross-cultural and gender differences appear for this cohort, with Millennials from Mexico using more emojis and women using them to a higher extent to express emotions.

Keywords: emojis use, communicational contexts, interpretation, millennials.

1. Introduction

Emojis are pictographs used in text-based communication (Miller et al., 2016), treated by computers as letters (non-western ones), which means that a software must explicitly support them.

Their use has been increasing during the last years (Barbieri, Ronzano, & Saggion, 2016),

primarily associated with the rise of social networking sites (SNSs), where communication in text-based forms needed a tool for expressing nonverbal information (Lo, 2008). Moreover, the worldwide adoption of emojis increased when virtual keyboards started to incorporate a standard international emoji keyboard, Apple being the first mainstream company to make the emoji menu standard for IOS 5 (Riordan, 2017a). Six billion of emojis are used every day (SwiftKey, 2015). The number of different emojis available is increasing, with new emojis being developed and proposed to users. In addition, emojis, which originally were only present on the Internet, started to invade the offline world too: there are mugs, T-shirts, all kinds of products using emojis. Emojis are used by brands. They are used by political parties in their campaign. They became part of everybody's life, online and offline, from birth to old age. Emojis can represent not only facial expressions, but also concepts, objects, animals, food, and much more (Novak, Smailović, Sluban, & Mozetič, 2015). Nevertheless, although in February 2018 there were 2,784 emojis in the Unicode Standard, previous research showed that users employ a limited set of facial expressions and smiles in particular (An, Li, Teng, & Zhang, 2018; Park, Baek, & Cha, 2014; Stark & Crawford, 2015). However, academic investigation about the use and interpretation of emojis remains in its infancy.

Since communication is essential in our daily life, it is important to understand how individuals are adapting to the new communication context. Furthermore, human interaction through online medium has become prevalent. By further understanding the specificities of online interactions and novel communication mechanisms as emojis, we could enhance our understanding of human behavior (Kaye, Malone, & Wall, 2017). Moreover, (Lu et al., 2016) defend that emojis are a ubiquitous language that bridges everybody. Understanding how to interpret and use them may represent an opportunity to do research without language barriers, for example, assessing differences in terms of personality (Marengo, Giannotta, & Settanni, 2017), sentiment, or internet fluency between individuals without verbal information.

Nonetheless, to the best of our knowledge, no large-scale survey with a cross-national approach has been conducted to better understand emojis' use: In which contexts millennials use emojis? How many emojis do they use? Why? To express what? Do they interpret them similarly?

In this paper, we want to answer these questions for a specific target population: the Millennials, i.e. individuals born between 1982 and 2003 (Strauss & Howe, 1991) who

represent the first generation to have had, during their formative years, access to the Internet (Pew Research Center, 2014) and the generation with a higher technology exposure (Hartman & McCambridge, 2011). We focus on this target population first, because this generation was found as the one with the highest emoji usage (Emogi Research Team, 2016), and second, because we expect that their use of emojis will differ from the one of other generations. Indeed, although their communicative skills have been found of lower quality than the ones of previous generations (Hartman & McCambridge, 2011), Millennials have a greater affinity for Computer-Mediated Communication (Myers & Sadaghiani, 2010), where new communicative mechanisms as emojis have appeared. In the United Kingdom, for instance, half of the Millennials consider that emojis have improved the ability to interact with others (Evans, 2015).

Besides, we study the use of emojis by Millennials in Spain and Mexico, two countries that share the same language but differ significantly on other aspects that could affect the emoji usage. As an example, 96.5% of the Millennials use the Internet daily in Spain versus 84.0% in Mexico (Statista, 2016a, 2016b).

The rest of this paper is organized as follows. The second section presents further the background for this work and our research hypotheses. The third section describes the methodology used. The fourth section presents the results. Finally, the fifth section concludes and discusses the main results of our study.

2. Background and hypotheses

2.1 Context of the use of emojis

2.1.1 Communicational context of the use of emojis

Past research has found that the use of emojis varies depending on the communicational context. The use of emojis increases in dialogic contexts, i.e. when individuals have a conversation through online media: for example, using instant messaging apps or SNSs compared to communicating via email (Kaye, Wall, & Malone, 2016). In addition, its usage increases in socio-emotional contexts compared to task-oriented ones (Sampietro, 2016).

Besides, Millennials are particularly used to communicate through texting, instant messaging apps and SNSs. For instance, in the USA, texting, which was found comparable to instant messaging (Bailey, Schroeder, Whitmer, & Sims, 2016), has overcome face-to-face or phone conversations as the preferred form of communication for young adults (Lenhart, Ling, Campbell, & Purcell, 2010; Smith, 2015).

Therefore, we propose the following hypothesis in the context of the current study:

H1: Millennials use emojis more often in instant messaging than in other communicational contexts.

2.1.2 Relational context of the use of emojis

The context of a relationship shapes social thoughts, feelings and behaviors (Clark-Polner & Clark, 2014). The relationship between interlocutors can also affect the pattern and the frequency of the use of emojis (Kaye et al., 2016; C. Kelly, 2015; R. Kelly & Watts, 2015). For instance, the use of emojis is expected to be lower with hierarchical superiors than with friends and loved ones.

Nevertheless, research shows that Millennials are not afraid to express their thoughts and emotions to superiors and adults (Tapscott, 1998), that they are comfortable communicating with their superiors (Howe & Strauss, 2007), and that they consider it fundamental to be satisfied in the organization (Martin, 2005).

Therefore, we do not expect that the use of emojis will differ depending on the interlocutors for this specific age group. Thus, our second hypothesis is the following:

H2: Millennials use emojis equally often with all interlocutors, independently of the proximity (emotional or generational) with this interlocutor.

2.2 Number of emojis sent

(Lu et al., 2016) found that the emoji use can be explained by several factors, such as

geographical closeness, language and history. This means that different cultural backgrounds could explain differences in the use of emojis. For instance, these authors showed, using data from the Kika Emoji Keyboard, that people living in Mexico included emojis in 7.9% of the messages whereas people living in Spain included them in only 3.4% of the messages.

However, this may be linked to the age structure of both countries. The median age in Spain is 43 years old whereas in Mexico it is 28 (CIA, 2017). Hence, we expect a reduction of the countries' differences when focusing on one specific age group, here the Millennials.

Moreover, thanks to technology and globalization, it seems that there are less cross-national differences for Millennials than for other generations (Stein & Sanburn, 2013). Consequently, we propose the following hypothesis:

H3: The number of emojis sent by Millennials is similar in Mexico and Spain.

In addition, the use of emojis by women has been found systematically higher (Chen et al., 2017; Pérez-Sabater, 2015). Nevertheless, if, as (Risman, 2017) defends, Millennials are changing the gender structure, rejecting the conception of gender as binary and what this implies, past findings about gender differences may not hold for this specific cohort. Therefore, our next hypothesis is:

H3b: The number of emojis sent by Millennials is similar for men and women.

2.2 Reasons of the use of emojis

Individuals use emojis with specific communicational purposes. Emojis have been considered as a substitutive tool for non-verbal cues (Kaye et al., 2016), implying that the use of emojis is related to an enhanced capacity of expressing the real meaning or the emotional intention of the message. A research conducted by (C. Kelly, 2015) on high-school students observed that the majority of the respondents used emojis to make the text easier to understand, with the principal objective of conveying emotions. Similarly,

(Kaye et al., 2016) found that emojis essentially serve to disambiguate the communicative intent behind the message, better expressing the emotional intent of the messages. But even if emojis function primarily to express emotions, the process is not as spontaneous as in face-to-face interactions. It represents a more considered behavior: individuals adapt their emotional expressions in respect to the possible impacts on others.

However, as (R. Kelly & Watts, 2015) assume, there is a wide array of non-face characters whose relevance to emotional communication is less clear (symbols, animals, objects, food, etc.). These authors defend that emojis may be used to preserve and strengthen the interpersonal relationships. For instance, acknowledging the message while indicating that there is little to say, which avoid the ignoring effect of a lack of response; participating in playful interactions with friends or family, which is an important sign of personal and close relationships; or creating shared and secret uniqueness, which helps increasing personal intimacy. Nevertheless, as (Riordan, 2017b) defends, non-face emojis play a role in communicating affective information necessary to fulfill a social role.

In this case, the behavior of Millennials seems to be in line with the one of the general population. Indeed, (Evans, 2015) found that 72% of the respondents between 18 and 25 years old from the United Kingdom use emojis to express their emotions. Thus, we propose the following hypothesis:

H4: The main reason for Millennials to use emojis is to express the emotional intent of the message.

However, Millennials could differ at some levels: indeed, previous research suggests that women are more inclined to express emotions (Komrsková, 2015; Nishimura, 2016; Parkins, 2012) which could play a role in the reason why they use emojis, although this could just be a stereotype (Sampietro, 2016). Nevertheless, as previously mentioned, gender differences are expected to be reduced or even disappear for Millennials (Risman, 2017). Thus, we think that there could be a difference from the general population at this level, and we also want to test the following hypothesis:

H4b: The proportions of Millennials using emojis to express emotions is similar for men and women

2.3 Emojis interpretations

Emojis affect how individuals interpret and understand the messages. Previous research found that emojis can change the emotional interpretation of ambiguous or neutral messages, increasing the positive perception of the message (Novak et al., 2015; Riordan, 2017a). Hence, these and other results (Kaye et al., 2017; Riordan, 2017a) suggest that one of the main functions of emojis is reducing the ambiguity of the message. Nevertheless, this research assumes that the emitter and the receiver will interpret emojis similarly. However, emojis may be interpreted differently depending on the sender, the context, the render of the image or cultural differences. There are emojis with a great level of semantic and sentiment misconstrual, which means that different people interpret differently both the meaning and the sentiment of the same emoji rendering (Miller et al., 2016). Hence, if the sentiment score of an emoji differs significantly between individuals, emojis may not reduce the ambiguity of the messages. The degree of semantic and sentiment misconstrual, in addition, grows when the renderings of the emojis characters vary through devices and when the same render has an ambiguous design (see Table 1). Furthermore, (C. Kelly, 2015) demonstrated that most of the individuals interpret emojis differently depending on the sender, primarily because family and friends may create their own meanings for some emojis (R. Kelly & Watts, 2015).

We expect these differences in interpretation to apply also to our specific target population and to be particularly salient across countries, due to cultural differences. Thus, our next hypotheses are the following:

H5: The interpretation of some emojis differs across Millennials.

H5b: The interpretation of some emojis differs between Spain and Mexico.

2.5 Contribution

This study helps to shed some light on the relatively unstudied emoji phenomenon. Past research on this topic has shown some methodological limitations. For instance, most of the research conducted used small or convenience samples with a lack of cross-national

research. Moreover, little research has explored Spanish-speaking countries. In addition, the emoji literature is mainly based on qualitative methods, as corpus analyses, instead of quantitative approaches based on survey research.

Finally, to the authors knowledge, although most of the past research has focused on specific population groups or unrepresentative samples, no study has focused on the emoji use of Millennials, even if this cohort is particularly interesting since 1) it has been found as the one with the highest emoji use, and 2) we expect that they will differ on several levels in terms of their emoji use (see our hypotheses).

Our research may help to overcome these limits by embracing a comprehensive and cross-national approach: by using a big sample from two countries, we will explore most of the questions that previous literature has researched, linking the different hypotheses and conclusions extracted in a unique paper.

3. Method

3.1 Data collection

We collected data in Spain and Mexico, through the online fieldwork company Netquest (www.netquest.com), accredited with the ISO 26362 quality standard. Netquest invites its panelists through email, using a list of persons that agreed to receive emails after they answered a short satisfaction survey proposed in one of the numerous websites collaborating with the company. Panelists are rewarded for each survey completed, depending on the estimated length of the questionnaire.

Our target population included all the individuals between 16 and 34 years old who have regular Internet access through a smartphone. Since the use of emojis is more common and easier on smartphones, we asked all participants to complete the survey through smartphones. Cross quotas for age and gender were used in each country to guarantee that the sample is similar on these variables to the Internet population from 16 to 34 years old. The objective was to get 800 respondents finishing the survey in each country.

Data collection took place between the 2nd and the 19th of June 2017. In total 1,614 respondents completed the survey until the end, 808 in Spain and 806 in Mexico

(respectively 66.4% and 59.7% of those who started the survey; 97.3% and 97.7% of those who answered the first main survey question).

3.2 The questionnaire

The questionnaire counted a total of 62 questions, mainly closed questions, focusing on the use of emojis, the conditions and reasons of this use, the meaning and interpretation of some of the most used emojis, etc. The design was optimized for mobile devices and skipping questions was allowed, but going back was not.

The full questionnaire in Spanish² is available at: <https://test.nicequest.com/respondent/esnpa/ebdd996c-d9ae-4708-9e6e-7dda4313d9a3>.

3.3 The analyses

3.3.1 Context of the use of emojis

To test **H1** we investigate, for each country, the proportion of times that panelists declared using emojis in three different contexts: 1) when having a conversation through instant messaging, 2) responding or reacting to social network content and 3) writing and sending an e-mail. To test if the means differed significantly between contexts, we used a series of one sample t-tests. Frequencies were ordered from 1 (0%) to 6 (81-100%). To assure the comparability between frequencies, when conducting the tests, we merged the first category (0%) with the second one (1-20%), which lead to a variable ranging from 1 to 5. Next, to test **H2**, we analyzed, for each country, the frequency (never, sometimes, often, always) of the use of emojis of Millennials with different interlocutors: 1) friends, 2) relatives, 3) classmates and workmates that cannot be considered as friends, 4) people of the same age or younger, 5) older people and 6) professors or hierarchical superiors. Statistical significance of the differences in means between contexts was analyzed using the one sample t-test (Never=1; Always=4).

3.3.2 Number of emojis sent

To test **H3** and **H3b**, we analyzed if the stated number of emojis sent per day was significantly different between countries and across genders using the Student's t-test.

In addition, we also conducted a linear regression, the stated number of emojis sent in a regular day (in twelve categories, ranging from "none" to "more than 100") being our dependent variable.

Concerning the independent variables, besides our two main variables of interest (gender, women=1; and country of residence, Mexico=1), we expected that individuals with a higher Internet and SNSs use will have a higher emoji use. Thus, we included the average number of hours of Internet use per day and the number of social networks used on an average week.

Moreover, (Wall, Kaye, & Malone, 2016) found that personality traits as agreeableness correlate with the use of emojis in Facebook, but not with text messages or e-mails, implying that personality traits may be affecting how and where individuals use emojis. Thus, we included personality traits of extroversion, creativity and laziness (composite scores¹ ranging from -9 to 9).

3.3.3 Reasons of the use of emojis

Respondents were asked to indicate all the reasons for using emojis that apply to them from the following ones: 1) because everybody uses it, 2) because I can write faster, 3) because they allow to express my emotions better, 4) because they are more visual than words, 5) because I like the pictures, 6) because they make easier to understand what I am trying to say, 7) other reasons. Then, to determine if **H4** holds, we tested (one sample test of proportions) if the proportion of respondents selecting the third option ("because they allow to express my emotions better"), was significantly higher than the other proportions.

In addition, to test **H4b**, we first compared the proportion of men and women selecting the third option, testing if the differences were significant (two-sample test of

proportions). Secondly, we conducted a logistic regression to assess the impact of gender on selecting as a reason to use emojis “because they allow to express my emotions better”. The independent variables are similar to the ones used for *H3* and *H3b*.

3.3.4. Emojis interpretations

Concerning *H5* and *H5b*, we asked panelists to indicate the meaning of six emojis using open-ended questions. The emojis chosen were expected to be in the ones most often misinterpreted. The rendering of the emojis was fixed to the current Whatsapp version (May 2017). Table 1 presents those emojis with the rendering used, the official meaning (from the Unicode) and their codes.

Table 1. Rendering, official meaning and codes of the emojis used

					
Sleepy face	Unamused face	Face with tears of joy	Smiling Face With Open Mouth and Cold Sweat	Person With Folded Hands	Person Raising Both Hands in Celebration
U+1F62A	U+1F612	U+1F602	U+1F605	U+1F64F	U+1F64C

The main meaning expressed in respondents' answers was coded. Then, we calculated, for each emoji and country, the percentage of respondents providing different meanings. We report those meanings with percentages higher than 10%, and the total percentage explained by those meanings, and compare for Spain and Mexico.

4. Results

4.1 Context of the emoji usage

4.1.1 Communicational context of the use of emojis

Table 2 presents the percentages of respondents who use emojis in $x\%$ of their messages, for each context and country.

Table 2. Use of emojis in different contexts (in%)

Emojis included in $x\%$ of the messages		x			
		0	1-40	41-60	61-100
Spain N=785	In instant messaging	1.7	52.7	16.2	29.4
	In social network**	17.2	54.3	13.1	15.4
	In E-mails**	64.6	31.3	2.3	1.8
Mexico N=812	In instant messaging	1.9	52.0	18.6	27.6
	In Social network**	3.7	55.6	17.8	22.9
	In E-mails**	49.3	41.7	4.7	4.3

Note: the stars in rows “In E-mails” and “In Social Network” indicate when differences between means are statistically significant from “Instant Messaging”; * $p < 0.05$, ** $p < 0.01$

In Spain, 29.4% of the Millennials use emojis in at least 61% of instant messages, versus 15.4% for social network and 1.8% for e-mails. In Mexico, these numbers are respectively: 27.6%, 22.9% and 4.3%. In addition, the percentages of Millennials including emojis in 41 to 60% of their instant messages are also higher than the ones for social network and e-mails in both countries. On the contrary, up to 64.6% of the respondents said that they never include emojis in emails in Spain (49.3% in Mexico), whereas only 1.7% never include them in instant messages (1.9% in Mexico). In addition, in both countries, the means are significantly higher for instant messaging compared to both other contexts. Hence, we find support for our first hypothesis: in both countries Millennials use emojis more often in instant messaging.

4.1.2 Relational context of the use of emojis

Figure 1 presents the frequency of emoji usage, from never to always, depending on the interlocutors.

Figure 1. Frequency of the emoji usage by interlocutors and countries

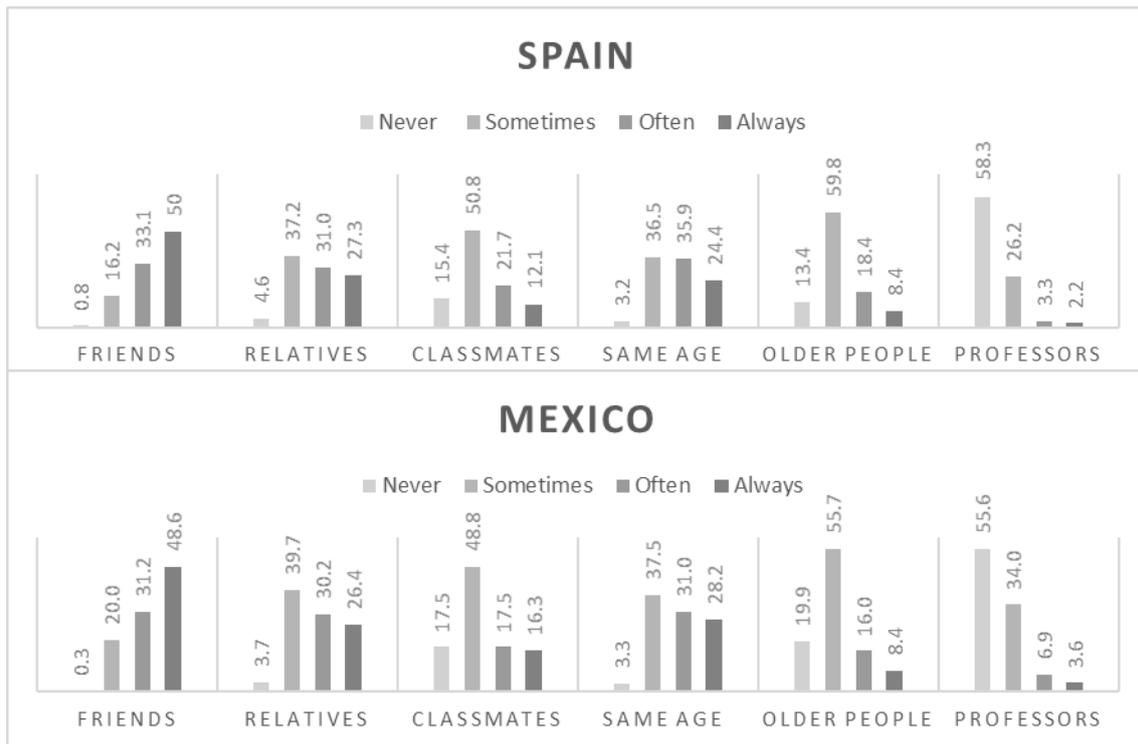


Figure 1 shows that Millennials use more frequently emojis to interact with friends (83.1% use emojis always or often in Spain and 79.7% in Mexico), with an important distance from the levels of use with their relatives (respectively 58.3% in Spain, 56.6% in Mexico) or classmates (33.8% in Spain, 33.7% in Mexico). Moreover, Millennials use emojis more frequently when interacting with younger or same age people (60.3% use emojis always or often in Spain, 59.1% in Mexico) than when communicating with older people (22.8% in Spain, 24.4% in Mexico). In both countries, the lowest levels of use are found for the interaction with professors or hierarchical superiors (only 5.5% use emojis always or often in the context in Spain and 10.5 in Mexico). If considering the means, all differences are significant except between relative and same age, for both countries. These results do not support our second hypothesis: Millennials do not use emojis equally often

with all interlocutors. They use them more often when interacting with friends or relatives, and with people from their same age or younger.

4.2 Number of emojis sent

Table 3 shows the percentage of respondents, crossed by country and gender, stating that they send a given number of emojis daily.

Table 3. Percentage of respondents sending a given number of emojis daily, by country and gender

	Spain		Mexico	
	Men	Women	Men	Women
0	5.1	1.2	1.5	.0
1-10	38.7	28.6	24.2	17.9
11-20	21.1	23.9	18.1	22.0
21-30	12.2	16.9	15.3	15.1
31-40	6.1	10.7	8.4	10.3
41-50	5.8	5.0	8.9	11.6
51-60	3.8	5.7	7.9	7.3
61-70	1.3	3.2	1.3	2.8
71-80	1.5	0.5	3.6	2.8
81-90	1.0	0.7	2.3	1.0
91-100	0.2	0.5	1.5	0.8
+100	3.0	3.0	6.9	8.3
N	393	402	392	396

Table 3 shows that in Mexico, independently of the gender, respondents state that they send more emojis daily than in Spain. In addition, women use more emojis daily than men for both countries. All differences except between genders in Mexico are statistically significant.

Nevertheless, these differences can be linked to different levels of technological usage or personality traits within genders and countries. Thus, a multivariate regression was

conducted to study the impact of gender and country while controlling for other variables. Table 4 presents the corresponding coefficients.

Table 4. Determinants of the number of emojis sent

	Emojis sent daily
Women	.13
Mexico	.61**
Age	-.03*
Internet usage	.32**
Social Network usage	.32**
Extroversion	.05**
Creativity	.00
Laziness	.01
Constant	1.18**
Adj R ²	.14
N	1,559

Significance: * $p < 0.05$, ** $p < 0.01$

Living in Mexico and not in Spain has a significant positive effect on the number of emojis used. Internet usage, Social Network usage and extroversion have also significant positive effects, whereas age as a significant negative effect. However, there is no significant impact of gender, creativity and laziness for the stated number of emojis sent daily.

Overall, we found some support for **H3b** (similarity across gender) but not for **H3**: although the Millennial generation has been found more homogeneous, country differences in terms of number of emojis sent persist.

4.3 Reasons of the emoji usage

Next, we investigate the main reasons stated for the emoji usage (**H4**). Table 5 presents the percentage of respondents that have chosen each option (check-all-that-apply question).

Table 5. Proportions of respondents choosing each reason for the emoji usage (in %)

Reason	Spain	Mexico
Express my emotions	72.5	72.3
More visual	61.1	48.4
Easier to understand	41.1	39.9
I like the pictures	25.7	26.1
Write faster	14.9	16.6
Everybody uses it	7.4	9.4
Other reasons	2.0	2.5
N	785	809

Most respondents use emojis to express their emotions (72.5% in Spain, 72.3% in Mexico). The second main reason is because they are more visual (selected by 61.1% of the respondents in Spain and 48.4% in Mexico). All other reasons are selected by less than 50% of the respondents. The least chosen reason is the social trend (only 7.4% selected it in Spain and 9.4% in Mexico). All differences between “Express my emotions” and the other options are statistically significant. Therefore, the results support **H4**: Millennials use emojis primarily to express emotions.

In addition, in order to test **H4b**, and see if women have a higher predisposition to use emojis to express emotions, Table 6 presents the proportion of respondents choosing the option “Express my emotions” by gender, for each country.

Table 6. Proportion of respondents choosing the option “express my emotions” by gender

	Spain		Mexico	
	Men	Women	Men	Women
Express my emotions	67.6**	77.8	69.9	75.1
N	374	396	386	397

Note: the stars in columns “Men” indicate when differences in proportions are statistically significant between genders; * $p < 0.05$, ** $p < 0.01$

A significantly higher proportion of women choose the option “express my emotions” in Spain, whereas in Mexico differences are not significant even if the trend is similar. Furthermore, we also conducted a logistic regression to study the impact of being a woman on the probability of choosing "express my emotions" as a reason for their emoji use. Table 7 presents the coefficients of this regression.

Table 7. Determinants of the number of emojis used and of selecting the reason "express my emotions"

	Express my emotions
Women	1.37**
Mexico	.90
Age	.98
Internet Usage	1.06
SocialN usage	1.11
Extroversion	.98
Creativity	1.04*
Laziness	1.00
Constant	1.61
Adj R ²	.02
N	1,502

Significance: * $p < 0.05$, ** $p < 0.01$

Women have a higher probability to select “express my emotions” as a reason for using emojis. The only other variable with a significant effect is creativity.

Overall, results from tables 6 and 7 suggest little support for **H4b**: we find differences across gender even for the Millennials.

4.4 Emojis interpretations

Table 8 presents the meanings proposed by the respondents for each of the six emojis and by country (when at least 10% of the respondents proposed this meaning, which led to a

maximum of three meanings per emoji), together with the percentage of respondents mentioning them.

Table 8. Meanings of different emojis (% of respondents stating each one)

	Spain				Mexico			
	Meaning1	Meaning2	Meaning3	Total (in%)	Meaning1	Meaning2	Meaning3	Total (in%)
	Tired (26.5)	Sad (22.6)	Bored (10.7)	59.8	Sad (36.2)	Tired (20.9)	-	57.1
	Angry (30.8)	Mistrust (17.9)	-	48.7	Angry (38.7)	Indifference (15.6)	-	54.3
	Funny (100)	-	-	100	Funny (98.9)	-	-	98.9
	Oops (Surprise/Sorry) (35.7)	Embarrassment (15.2)	-	50.9	Embarrassment (28.9)	Oops (Surprise/Sorry) (25.0)	-	53.9
	Please (62.1)	Sorry (10.0)	-	72.1	Please (63.2)	Pray (12.7)	-	75.9
	Hello (13.3)	-	-	13.3	Hello (15.2)	-	-	15.2

Except for the third emoji, where almost all respondents interpreted it in the same way (funny), we see that there are differences in how the respondents interpret the emojis proposed. For instance, the first emoji was interpreted by a group of respondents as “tired” while another group interpreted it as “sad”, and a third (smaller) group interpreted it as “bored”: three very different meanings for the same emoji, all embraced by a significant number of respondents. Another example is the last emoji: in this case, only one meaning reached the 10% level, with 13.3% of the respondents saying that it means “hello” in Spain (respectively 15.2% in Mexico), suggesting that there are really many different ways to interpret the emoji; none of them being shared by a large proportion of

respondents. Thus, we find some support for *H5*: the interpretation of some emojis differs across respondents.

Moreover, even if the trend is similar (different interpretations for the same emoji), we can also notice differences between countries, supporting *H5b*. Firstly, some emojis differ in the main meaning. For instance, in Spain the first emoji means “Tired” for 26.5% of respondents and “Sad” for 22.6%. Conversely, in Mexico the meaning with a higher percentage is “Sad” with 36.2% while “Tired” is reported by 20.9% of respondents. A similar pattern can be found for emoji 4. Secondly, some emojis have remarkable differences for the second meaning. As an example, in Spain the emoji 2 represents “Mistrust” for 17.9% of the respondents, while in Mexico the second meaning is “Indifference”. Moreover, in Mexico the emoji 5 means “Pray” for nearly 13% of respondents, whereas this meaning does not appear in Spain in Table 8 (i.e. it is mentioned by less than 10% of the respondents).

5. Discussion and conclusions

In this paper our goal was to study the emoji use by Millennials in Spain and Mexico, the generation with the higher emoji usage. In addition, we expected differences on several levels in terms of their emoji use. Focusing on this target, we have studied several questions: In which contexts millennials use emojis? How many emojis do they use? Why? To express what? Do they interpret them similarly?

5.1 Main Results

First, Millennials use emojis mainly in dialogic contexts like instant-messaging apps and less in task-oriented communication contexts as e-mails (support for *H1*). In addition, Millennials use emojis more often with friends, relatives or same age interlocutors than with hierarchical superiors or older persons (no support for *H2*). Nevertheless, these results may be affected by the communicational context: if with hierarchical superiors Millennials mainly communicate through e-mail, the lower emoji use may be partially explained by this.

In addition, Millennials living in Mexico use more emojis than those living in Spain (no support for *H3*), showing that even if this generation has less cross-national differences, the emoji use is still different. However, for Millennials, we found no gender differences on the number of emojis sent daily (support for *H3b*), contradicting past research on general population (e.g. Pérez-Sabater, 2015).

Furthermore, even if some authors defend that emojis are not used necessarily to convey emotions (R. Kelly & Watts, 2015), our study shows that the main reason behind the emoji usage for Millennials is, with a large difference, the capacity to convey emotions (support for *H4*). Thus, emojis are used as a substitution of the personal non-verbal cues that we have on face-to-face interactions (Kaye et al., 2017). In addition, past research suggested that women are more inclined to express emotions than men (Komrsková, 2015; Nishimura, 2016; Parkins, 2012). However, we hypothesized that Millennials women could be different from the general population at this level. Our data do not support this idea, demonstrating that women are more inclined to use emojis to express their emotions than men (no support for *H4b*).

Finally, there are important differences in how Millennials interpret some emojis (support for *H5*). Moreover, we found differences in interpretations between Spain and Mexico (support for *H5b*).

5.2 Limits and further research

These results have limits. In particular, they are only based on an online opt-in panel, and panelists may be different from non-panelists for key variables (e.g. SNSs usage) regarding the emoji use. Moreover, because closed questions were used (with intervals as response options) to ask about the frequencies or the number of emojis, we could not interpret directly the means. Also, the regression analyses presented have very low explanatory power (see adjusted R^2), suggesting that we might be missing important variables, that were not measured in this study. Finally, one should keep in mind that results may not be extrapolated to other generations or countries. Therefore, further research is needed, in order to test the robustness of these results to different contexts

(probability-based surveys, other generations, other countries and cultures, different response scales, etc).

5.3 Conclusions

Based on these results, we conclude that overall Millennials use emojis similarly as what other authors have found for the general population. Emojis appear as a communicative tool used primarily in dialectical contexts, where nonverbal cues are normally used in Face-to-Face interactions. Besides, emojis are mainly used to communicate emotions. Thus, its use is not necessarily conceptualizable as a faster or simpler method of communication substituting text-based messages, but as a complement to convey emotions harder to express with words. In addition, some emojis present clear differences in their interpretation by Millennials in general and across countries, which represents an important limit for their use in both marketing and academic contexts.

Furthermore, our results point out that cross-cultural and gender differences appear for this cohort, even if some authors have considered this generation as more homogeneous within gender and countries.

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Notes

1. The composite score for each personality trait is computed as the sum of the values of three questions (each ranging from -3 to 3) asking to what extent respondents resemble to different sentences (e.g. “I feel comfortable around people”).
2. An English translation of the questions used in this study is available upon request to the first author.