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I'M NOT ANGRY...: PERCEPTIONS OF PUNCTUATION MARKS IN ONLINE TEXT MESSAGES BY SERBIAN STUDENTS OF ENGLISH**

Abstract

The aim of this study was to examine the differences in confidence or interest of an online interlocutor perceived by Serbian students of English based on the punctuation mark used in online text messages. A survey with different sets of exchanges in which the exclamation mark, the period, the ellipsis, and no punctuation mark were used was conducted. The task of the participants was to rate the confidence or satisfaction of the interlocutors on a 7-point Likert scale. The average values for each punctuation mark were measured and the statistical significance of the results was determined using a one-way ANOVA test. The results of the study revealed significant differences between the scores for each individual mark and showed that they stood closer to native-speaker average scores than to L2 speaker scores.

Key words: computer-mediated communication, online communication, online text message, punctuation, punctuation mark

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1. Introduction

With the development of new computer technologies, new methods of communication are becoming more prevalent. More and more communication happens through online mediums such as e-mail (Sidi et al. 2021: 1) and social media in particular (Noelle et al. 2021: 1). Considering that more work is done in online spheres (Sidi et al. 2021: 1) and that social media has become a tool for everyday interpersonal communication among friends (Noelle et al. 2021: 1), it is no surprise that the average number of hours a person spends online is increasing each year (Dean 2021) and that the use of online media of communication has drastically increased in turn.

However, computer-mediated communication, or CMC for short, differs from face-to-face communication in that the elements of prosody and body gestures are absent (Kruger et al. 2005: 926). These aspects of communication aid in the expression of emotionality and further nuance such as irony and sarcasm in face-to-face communication. As such, it might seem as though these elements of meaning cannot be expressed in CMC. However, interlocutors online can utilize several tools to display their emotional state more clearly. Writing in all-caps can communicate feelings of excitement or anger (Heath 2021: 74), while letter repetition may signify that the pronunciation of a particular morpheme or word would be stretched out and longer in a face-to-face conversation (Kalman & Gergle 2014: 191). A particularly meaningful element of CMC are the punctuation marks used in textual messages, as usage of different marks can add different nuances to the meaning of the message (Gunraj et al. 2015: 1069; Houghton et al. 2017: 15). In addition, use of different punctuation marks might affect the interlocutor's perceived level of kindness and friendliness (Gunraj et al. 2015: 1069).

Therefore, the aim of this study was to examine the perceptions of online interlocutors in relation to the punctuation marks they used at the end of their text messages. The exclamation mark, the ellipsis, the period and no punctuation marks were examined in the study. Special attention was paid to the results from previous studies (Gunraj et al. 2015: 1069; Houghton et al. 2017: 15) and particularly relevant were those which examined the differences in perception between native English speakers and L2 English speakers (Sullivan 2019: 1).

2. Theoretical background

2.1. Computer-mediated communication (CMC)

Computer-mediated communication can be defined as "*any means of communication realized by means of computers*" (Herring 1996: 1). As such, CMC is a versatile tool used in multiple different contexts, such as online work (Sidi et al. 2021: 1) and education (Đukić Mirzajanc 2018: 645). However, its most prevalent use is as a method of everyday communication on social media. In fact, online communication on social media has become one of the most reliable methods for casual communication among friends. Considering all these roles CMC can fulfill (Sidi et al. 2021: 1; Đukić Mirzajanc 2018: 644), it can be said that it has become one of the main modes of communication today.

A unique element of CMC is that it is a unimodal mode of communication (Reynolds et al. 2017: 2986). It lacks other modes which are present in face-to-face communication, such as prosody and gesticulation (Kruger et al. 2005: 926). These elements can carry multiple aspects of meaning that cannot be perceived in the text itself, providing emotional and pragmatic information and aiding with proper turn-taking in conversation (Houghton et al. 2017: 3). Without the aid of these modes, CMC may seem more confusing and complicated to navigate. Indeed, in the online environment, a person may find it more difficult to interpret the emotional state of their interlocutor and to recognize when the interlocutor is being sarcastic (Kruger et al. 2005: 928).

This confusion is avoided thanks to so-called *textisms* (Houghton et al. 2017: 3), which represent forms of writing and phrasing unique to CMC. The use of textisms helps to construct the context which is missing because of the absence of prosody and body language. Elements such as letter repetitions, nonstandard capitalizations and emojis serve to imitate the prosodic aspects of speech, as well as the emotional states, the body language and facial expressions of the interlocutors (Houghton et al. 2017: 3), helping to bridge the gap between the unimodal form on CMC and the multimodal face-to-face communication. Textisms are therefore a vital aspect of CMC, as they provide CMC with the nuance which is present in face-to-face conversations due to the aid of other modes.

2.2. Punctuation in CMC

A particularly important aspect of CMC are the punctuation marks used in text messages. Among the previously mentioned textisms, nonstandard punctuation has been shown to "*communicate important social and pragmatic information*" (Houghton et al. 2017: 3). However, different punctuation marks can be used to present different emotional and pragmatic undertones. The differences in meaning perceived from the use of different punctuation marks has been a topic of several studies.

Initial studies regarding the interpretation of punctuation marks in online text messages focused on sentences ending with a period and sentences ending with no punctuation mark. In one of these studies, the participants were presented with two sets of online exchanges displayed either on pictures of cell phones or of paper slips (Gunraj et al. 2015: 1068). These exchanges consisted of a question which was answered with a single affirmative word (e.g. yeah, yup). The difference between the two sets was the final punctuation mark: in one set, the affirmative was followed by a period, while in the other there was no mark after it. The participants' task was to rate the sincerity of the response from the message on a 7-point Likert scale. The results showed that the responses ending with the period (M=3.85, SD=0.99) were perceived as less sincere than those with no punctuation mark (M=4.06, SD=1.00) (Gunraj et al. 2015: 1069). This study was expanded upon in (Houghton et al. 2017: 6), in which longer conversations, as well as uncertain and negative responses were examined. Once again, the two sets of dialogues differed only in the final punctuation mark, and the participants were tasked with determining the sincerity of the response on a 7-point Likert scale. The results were similar to the previous study, as the responses ending with the period were consistently rated as less sincere throughout longer conversations ending with an affirmative, conversations ending with a negative and conversations ending on an uncertain note (Houghton et al. 2017: 16). In addition, the results of the study suggested that the period in a negative response was perceived as ending the conversation more abruptly (Houghton et al. 2017: 15). Later studies added to this notion, suggesting that a period in a negative sentence is perceived as an attempt to terminate the conversation altogether (Androutsopoulos & Busch 2020: 6).

Later studies would focus on the exclamation mark and the ellipsis aside from the period and no punctuation mark (Pleij 2019: 22; Sullivan 2019: 17). As in the two previous studies, the participants were presented

with different sets of conversations, which bore different punctuation marks at the end. On the one hand, in (Pleij 2019: 22), the punctuation marks used were the period, the exclamation mark, the ellipsis, and no punctuation mark. The participants rated the social appropriateness of the responses on a 1-5 scale. The results showed that the highest rated punctuation mark was the exclamation mark, followed by the period, then no mark, while the ellipsis was rated the lowest (Pleij 2019: 27). On the other hand, the question mark and the comma were added to the punctuation marks examined in Sullivan (2019: 17). In addition, this study focused on the differences in perception of these marks between native English speakers and L2 English speakers. The participants in the study rated the interest or the certainty of the respondents on a 10-point Likert scale. Similar to the previous study (Pleij 2019: 27), the highest rated in this one was the exclamation mark, while the ellipsis was rated the lowest (Sullivan 2019: 28). However, the period was rated lower than no punctuation mark. Moreover, the results showed a difference between native and L2 English speakers, as L2 speakers rated the ellipsis and period higher than native speakers did (Sullivan 2019: 38).

While the differences between the sincerity and appropriatenes of different punctuation marks in CMC have been the topic of several studies, and the differences between the perceptions of native and L2 English speakers have been examined, to the author's knowledge, there have been no studies focusing on the perceptions of Serbian speakers of English. Therefore, the aim of the study presented in this paper was to examine the differences in perception of punctuation marks in CMC by Serbian students of English.

3. Research questions and hypotheses

The topic of this study was the examination of the perceptions of Serbian students of English regarding different punctuation marks in online text messages. The study focused on the exclamation mark, the period, the ellipsis and no punctuation mark. The main research questions during the study were the following:

Q1: Are there significant differences in the way Serbian students of English as L2 interpret the same text message depending on the punctuation mark used?

Q2: If so, will the interpretations resemble the previous results of native speakers or of other L2 learners (Sullivan 2019: 38)?

Considering these research questions, the main hypotheses were as follows:

H1: The results will show significant differences in the interpretation of the text messages based on the punctuation mark used.

H2: The results of the study will be closer to the ratings from L2 English speakers from previous studies than from native English speakers (Sullivan 2019: 38).
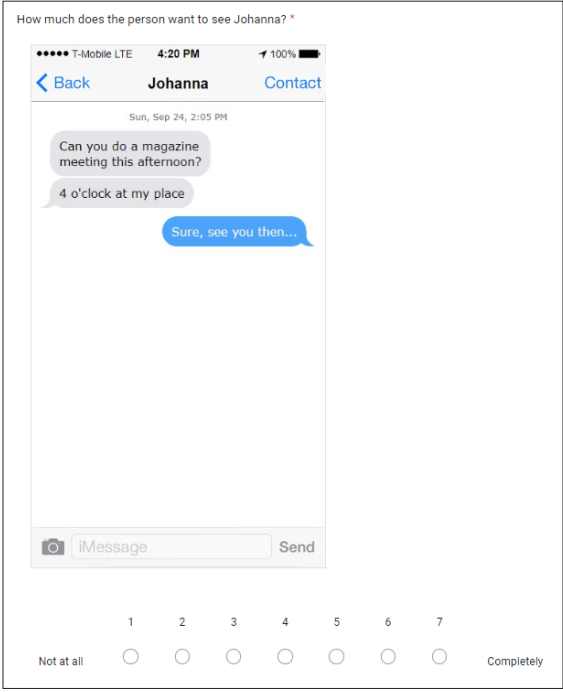
4. Method

For the purposes of the study, 4 different sets of text messages were created. These sets consisted of 5 short exchanges with each set utilizing one of the 4 punctuation marks examined in the study, those being the exclamation mark, the ellipsis, the period, and no punctuation mark. The texts in the dialogues were chosen from the CorTxt corpus of online text messages (Tagg 2009). In some cases, it was necessary to adapt the sentences so that they would fit into a short conversation format. The conversations themselves were displayed over a picture of a cell phone using the website Iphonefaketext.com. This site made it possible to present these conversations as though they were text messages on an online app. An example of such a conversation can be seen in Figure 1.

Once the conversations had been created, they were presented to the participants in the form of a survey created using Google Forms. The items in the survey were pseudorandomized so that no two punctuation marks and no two similar conversations would appear one after another. The survey also consisted of four different sets of messages, within which one message would end with no punctuation mark and the other would end with a question mark. These messages were inspired by the notion of question marks potentially displaying uncertainty from previous studies (Sullivan 2019: 11). Overall, there were eight of these additional items,

and their role was to serve as filler items. The task of the participants in the survey was to determine the satisfaction or confidence of the interlocutors using a 7-point Likert scale below the image with the conversation on the phone.

Figure 1. Example of a short conversation from the study

There were 40 participants in the study. They consisted of students of English from the Faculty of Philosophy at the University of Niš. Students from all four years of study were included in the survey. Regarding the gender of the students, 33 participants identified as female, 6 as male, and 1 person preferred not to state their gender.

Once the survey had been completed, the average score and the standard deviation for each punctuation mark set were measured. In addition, the potential significance of the differences in the results was determined using a one-way ANOVA test. After that, a t-test was run with a focus on the period and no punctuation mark, as some of the previous studies have given contradictory results (Pleij 2019: 27; Sullivan 2019:

29). Finally, the results of the survey from this study were compared to the results of native and L2 English speakers from (Sullivan 2019: 38) in order to determine which group the results of the Serbian students of English resembled more closely.

5. Results

In this section, the results gained from the survey will be presented using two different tables. The first table will present the median score and the standard deviation for each individual punctuation mark. In addition, these results will be compared to the values given by native and L2 speakers of English in previous studies (Sullivan 2019: 38). The results of the one-way ANOVA test meant to determine the significance of the results of the survey will be displayed in the second table.

The median score and the standard deviation of each punctuation mark from the survey can be seen in Table 1.

Punctuation mark	M	SD
Exclamation mark	6,12	1,39
No mark	4,39	1,51
Period	4,14	1,54
Ellipsis	3,02	1,52

Table 1. The median score and the standard deviation
of each punctuation mark

As can be seen in the table, the exclamation mark was rated the highest (M=6.12, SD=1.39). Considering that the survey employed a 7-point Likert scale, this score displays a high degree of perceived confidence or sincerity when the exclamation mark is used. The second most highly rated was no mark (M=4.39, SD=1.51). Below no punctuation mark was the period (M=4.14, SD=1.54). The lowest ranked punctuation mark was the ellipsis (M=3.02, SD=1.52).

A great difference could be perceived among the four different median scores. The differences of these results resembled the score distributions from previous studies (Gunraj et al. 2015: 1069; Houghton et al. 2017: 15; Pleij 2019: 22; Sullivan 2019: 17). In order to test the significance of the results from this study, a one-way ANOVA was performed. The results of the ANOVA test are presented in Table 2.

df	MS	F	p	F critical
3	317,95	140,47	2,08[-72]	2,62

Table 2. The results of the ANOVA test

The results of the ANOVA test show a significant difference among the values of the four individual punctuation marks (p = 2.08 to the power of -72). In addition, a t-test was performed with a specific focus on the period and no punctuation mark. The result of this test showed a p-value of 0.099. The difference between them cannot be said to be significant. However, despite the results of this t-test, the one-way ANOVA test has shown that the differences in the average scores gained from the study are significant.

Finally, the test results were compared to the average scores given by native English speakers and L2 English speakers (Sullivan 2019: 38). The punctuation marks focused on were the ellipsis and the period. However, as the study comparing native and L2 English speakers utilized a 10-point Likert scale (Sullivan 2019: 16), the values were first adapted to a 7-point Likert scale used in this study. With the scores adjusted for a 7-point Likert scale, the results of the study in this paper were closer to the scores given by native speakers (2.76 for the ellipsis, 4.17 for the period) than L2 speakers (3.52 for the ellipsis, 4.51 for the period).

6. Discussion

The first hypothesis of the study stated that significant differences would appear among the rankings for the four punctuation marks. Overall, the distribution of the average scores for each individual punctuation mark in this study was in line with the scores from the previous studies (Gunraj et al. 2015: 1069; Houghton et al. 2017: 15; Pleij 2019: 22; Sullivan 2019: 17). The highest rated punctuation mark was the exclamation mark, which was followed by no mark, then the period, and finally the ellipsis. In addition, the ANOVA test has shown a significant difference among these four ratings (p=2.08 to the power of -72). These results seem to indicate that the first hypothesis of the study has been confirmed. There is a caveat to this conclusion, as the t-test has not shown significant differences between the ratings for the period and no mark, but the overall distribution of the four punctuation marks can be said to support the first hypothesis of the study.

According to the second hypothesis, as the participants of the study were Serbian students of English, it was assumed that the results of the study would resemble the results of L2 English speakers more than native English speakers. The results of these two groups differed regarding the scores for the period and the ellipsis, as L2 speakers rated both of these marks more highly than native speakers did. The average score given to the ellipsis by Serbian students of English was between these two values, but it was closer to the native speaker value. A similar outcome was obtained when the scores for the period were examined. The score for the period by Serbian students was lower than both of the values of L2 and native speakers. However, as the native speaker value was the lower among the two, the average score of the period by Serbian speakers was closer to the score given native English speakers. Since both the period and the ellipsis values given by Serbian students of English were closer to native English speaker scores than to L2 English speaker scores, the results of the study do not support the second hypothesis of this study.

7. Conclusion

To conclude, this study examined the perception of Serbian students of English of the confidence or interest of an interlocutor in online text message exchanges based on the punctuation mark they used in their sentences. The survey in this study focused on the exclamation mark, the ellipsis, the period, and no punctuation mark. The results of the survey support the first hypothesis of the study, but do not support the second hypothesis.

According to the first hypothesis, significant differences between the values of the individual punctuation marks would appear. The results showed large differences between the values for the four different punctuation marks examined, as the exclamation mark was rated the highest, no punctuation mark was rated the second highest, the period was the second lowest, and the ellipsis was the lowest. These results seem to be in line with the results from previous studies, both those focusing only on the period and no punctuation mark (Gunraj et al. 2015: 1069; Houghton et al. 2017: 15) and those focusing on all the four marks (Pleij 2019: 22; Sullivan 2019: 17). Moreover, the results of the one-way ANOVA test show that the differences among the four punctuation marks are significant, which is a result that supports the first hypothesis.

The second hypothesis stated that the results by Serbian learners of English would be closer to the values given by L2 speakers of English than those given by native English speakers (Sullivan 2019: 38). The difference between these two groups could be perceived in their ratings for the period and the ellipsis, wherein L2 speakers rated these two marks more highly than the native speakers. However, for both of these marks, values by Serbian speakers were closer to native values than to L2 values, as the Serbian students' value for the ellipsis was between the two values, but closer to the native speakers' value, while the period was rated lower by Serbian speakers than by native and L2 speakers. Since these results orient the ratings given by Serbian students of English closer to native speaker values than to L2 speaker values, they do not support the second hypothesis.

Finally, there were several limitations in this study which should be mentioned. Firstly, the survey was completed by 40 participants, 33 of whom were female. With only 6 male participants and one person who wished not to disclose their gender, the study could not explore the potential effect of gender on the perception of the four punctuation marks. In addition, students of all 4 years of study were included in the study. Therefore, it was not possible to further examine the results of the first, second, third and fourth year students, as the groups formed would have been too small to bear statistical significance.

The results of this study provide additional topics of interest for future studies. Firstly, a potential study could examine the previously mentioned gender differences in perception of the four punctuation marks. Secondly, the effect of adding or omitting a question mark in order to express uncertainty, which was present in the survey for the purpose of filler, can present a separate topic of a study. Finally, a separate study could focus on text messages written in Serbian and investigate differences in the perceived confidence, interest or friendliness of online interlocutors in two different languages.

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