



## Full length article

## Texting insincerely: The role of the period in text messaging



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## ABSTRACT

Text messaging is one of the most frequently used computer-mediated communication (CMC) methods. The rapid pace of texting mimics face-to-face communication, leading to the question of whether the critical non-verbal aspects of conversation, such as tone, are expressed in CMC. Much of the research in this domain has involved large corpus analyses, focusing on the contents of texts, but not how receivers comprehend texts. We ask whether punctuation – specifically, the period – may serve as a cue for pragmatic and social information. Participants read short exchanges in which the response either did or did not include a sentence-final period. When the exchanges appeared as text messages, the responses that ended with a period were rated as less sincere than those that did not end with a period. No such difference was found for handwritten notes. We conclude that punctuation is one cue used by senders, and understood by receivers, to convey pragmatic and social information.

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## 1. Introduction

Text messaging has become a major method of communication, and one of a number of CMC<sup>3</sup> methods that are used often. Texting is the most frequent type of communication among

teenagers, as 63% of them reported texting every day, compared to only 35% who socialized daily with friends outside of school and 26% who spoke daily with friends by cell phone (Lenhart, 2012). In contrast with the earlier belief that CMC is less rich than face-to-face conversation given the lack of important social cues (Daft & Lengel, 1986), more recent results indicate that CMC is able to convey subtle interpersonal information (Kalman & Gergle, 2014), perhaps even more effectively than face-to-face communication in some circumstances. In the current study, we ask about the cues that allow for this richness in CMC.

Similar to other forms of CMC, texting allows for socially-oriented communication (e.g., McCormick & McCormick, 1992; Riordan & Kreuz, 2010); a texted conversation largely mimics a face-

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<sup>3</sup> CMC refers to computer-mediated communication.

to-face conversation due to the rapid, reciprocal exchange between the texters. As a result, texts are more speech-like than traditional forms of written language. An interesting research question that has emerged from the development and growth of CMC relates to how the non-verbal aspects of conversation – tone, pauses, gestures, gaze – that are so essential to face-to-face interactions, are expressed in CMC (e.g., Darics, 2013). Initial work indicates that cues such as asterisks, emoticons, punctuation, and letter repetition, may play a strong pragmatic role in text conversations. Letter repetition (e.g., sooooo), for example, may mimic phoneme extension found in spoken language (Kalman & Gergle, 2014). These types of cues are used to express information beyond the literal meaning of the message, providing pragmatic and social information that is not present in the words themselves.

Despite the extensive and growing literature documenting the inclusion of extra-linguistic cues in CMC, little is known about the readers' or receivers' comprehension of these cues. The majority of the work in this area has involved identifying and classifying the intended function of the non-verbal signals based on their frequency in naturally occurring communication (e.g., Darics, 2013; Kalman & Gergle, 2014). But what remains to be seen is whether a sender's intention corresponds to a receiver's interpretation of a particular cue. Do these extra-linguistic cues influence the receiver's comprehension and interpretation of the message? Are the cues conveying their intended pragmatic and social information? And finally, can this be examined empirically?

To address these questions, the current study provides an empirical exploration of readers' understanding of the pragmatics of the sentence-final period. We chose to examine the period because its use is variable in text messaging. Ling and Baron (2007) found that 39% of text messages, both single- and multiple-sentence, contained sentences that ended with a period. Of the texts containing multiple sentences, 54% of the non-terminal sentences in the message ended with a period, whereas only 29% of the message-terminal sentences ended with a period. These numbers have likely changed due to the updated features of cell phones, but the use of sentence-final periods remains variable. We ask whether this variation in the use of the period is meaningful. For the sender, the decision to include or not include a period might reflect personal writing style or time constraints. It might also be random or linguistically meaningful. If the inclusion or exclusion of the period is linguistically meaningful to the sender, the question is whether it is also linguistically meaningful to the receiver.

In a 2013 *New Republic* article, Ben Crair argues that the inclusion of a period in a text message can be understood as imbuing the statement with some type of negative valence:

The period was always the humblest of punctuation marks. Recently, however, it's started getting angry. I've noticed it in my text messages and online chats, where people use the period not simply to conclude a sentence, but to announce 'I am not happy about the sentence I just concluded.' ... 'No.' shuts down the conversation; 'No ... ' allows it to continue.

The present study provides an empirical investigation of Crair's intuition. When used in a text message, do readers indeed perceive the period as being "pissed off" (Crair, 2013)? Because the period is optional in text messaging, we ask whether its inclu-

sion is pragmatically meaningful to the receiver, acting as an extra-linguistic cue in place of the types of nonverbal cues that help to give face-to-face communication its rich meaning. Specifically, we ask whether its inclusion conveys pragmatic information about the sincerity of the message.

Given that the non-obligatory nature of punctuation is not unique to text messaging, we also examine participants' perception of sincerity in hand-written notes as it relates to the presence or absence of a period. Although periods may serve the same function across all forms of informal written communication, there is reason to suspect that they may play a special role in text messages, especially considering the vast number of texts that people exchange, and the speed with which they are exchanged.

## 2. Method

### 2.1. Materials & design

Participants read a series of exchanges that appeared either as text messages that were printed on pictures of cell phones (see Appendix A), or as handwritten notes that were printed on pictures of loose leaf paper (see Appendix B). Each exchange contained a message from a sender and a response from a receiver. In the 16 experimental exchanges, the sender's message contained a statement followed by an invitation phrased as a question (e.g., Dave gave me his extra tickets. Wanna come?). The receiver's response was an affirmative one-word response (Okay, Sure, Yeah, Yup). There were two versions of each experimental exchange: one in which the receiver's response ended with a period and one in which it did not end with any punctuation. In addition to the 16 experimental exchanges, 12 filler exchanges were constructed to obscure the manipulation. In these, the sender's message contained one or two sentences that were statements or questions and the receiver's response contained one or two sentences that ended in periods, exclamation marks, or no punctuation. All messages were less than 160 characters (i.e., the maximum length of a text message) and the inclusion of acronyms (e.g., LOL) and accent stylizations (e.g., gonna) was randomized throughout the stimuli.

Stimuli booklets were created and distributed using the following criteria: (1) each participant completed a booklet that contained either text messages or handwritten notes; (2) within each booklet, only one version of each experimental exchange appeared – either the version with the period or the version without; (3) and each booklet contained eight experimental exchanges that had a sentence-final period and eight that did not. Experimental exchanges and filler exchanges were pseudo-randomly intermingled, such that no more than three experimental exchanges or three filler exchanges appeared in a row.

### 2.2. Procedure

Each participant completed a booklet. On each page of the booklet containing text messages, two different cell phones were presented. The cell phone to the left displayed the sender's message and the cell phone to the right displayed the receiver's response. Below the display, participants were asked to rate the sincerity of the receiver's response on a Likert scale from 1 (Very Insincere) to 7 (Very Sincere). The booklet containing handwritten notes followed the same format, except that two hand-

written notes were presented on each page instead of two cell phones.

### 2.3. Data analysis

The rating data were analyzed with participants as a random effect variable ( $t_1$ ) and items as a random effect variable ( $t_2$ ).

### 2.4. Participants

One hundred twenty-six Binghamton University undergraduates (91 females, 35 males) voluntarily participated in this experiment in exchange for course credit or extra credit.

## 3. Results & discussion

Text messages that ended with a period were rated as less sincere ( $M = 3.85$ ,  $SD = 0.99$ ) than text messages that did not end with a period ( $M = 4.06$ ,  $SD = 1.00$ ):  $t_1(57) = 2.73$ ,  $SEM = 0.09$ ,  $p < .01$ ;  $t_2(15) = 2.49$ ,  $SEM = 0.06$ ,  $p < .05$ . These results indicate that punctuation influenced the perceived meaning of the text messages. Even though most of the important social and contextual cues were missing, given the simplicity of the materials and given that the participants did not know the nature of the relationship between the two communicators, the sincerity of the short messages was evaluated differently depending on the presence or absence of a period. Although the result was modest in size, the manipulation was quite subtle compared to the typical richness of CMC.

In contrast to the finding for text messages, the sincerity rating for handwritten notes with a period ( $M = 4.03$ ,  $SD = 0.96$ ) did not differ from that without a period ( $M = 4.09$ ,  $SD = 1.01$ ):  $t_1(67) = 0.81$ ,  $SEM = 0.08$ ,  $p = .42$ ;  $t_2(15) = 0.84$ ,  $SEM = 0.05$ ,  $p = .41$ . Interestingly, both versions of the handwritten notes were rated similarly to the text messages that did not end with a period. Although speculative, this pattern of data suggests that the exclusion of periods in text messages is the default. Consistent with this, Ling and Baron (2007) found that the majority of sentences in text messages did not end with a period. More generally, our findings indicate that readers treat the period as pragmatically meaningful in text messages, but not in handwritten notes.

## 4. Conclusions

We examined whether the inclusion of a sentence-final period in text messages affected readers' perception of the sincerity of the messages. We found that text messages that ended with a period were rated as less sincere than text messages that did not end with a period. This pattern, however, was not found for handwritten notes.

Our finding that the sentence-final period was understood to render a text less sincere is likely only one of a number of possible meanings it could convey. As Darics (2013) argues, the meaning or function of any cue is necessarily influenced by the context, or the communicative situation. Thus, our claim is not so

much that the period is used to convey a lack of sincerity in text messages, but that punctuation is one of the cues used by senders, and understood by receivers, to convey pragmatic and social information normally communicated through prosody, pauses, gestures, filler words, and eye gaze. In short, our data indicate that people are able to include in their texts the types of non-verbal cues that are present in face-to-face communication. This finding is all the more impressive given that our materials were so modest; not only were they short and lacking context, but participants were asked to read these text messages in a laboratory setting and to interpret the meaning of messages sent or written by people they did not know. Despite this, punctuation in text messages was understood as an extra linguistic cue.

More generally, these results highlight the potential fruitfulness of empirical investigations related to non-verbal signaling in CMC. Despite the recent growth of research in CMC, the majority of what we know is based on large corpus analyses of existing texts. Although they provide insights into the sender's intentions, they do not allow for the examination of the receivers' understanding of CMC. Well-controlled empirical studies are an important complement to the current body of literature, especially when addressing questions of comprehension.

Finally, these findings underscore the wonders of language. As with more traditional forms of communication, people are exquisitely sensitive to subtle cues in CMC, and have created ways to convey important pragmatic and social information in their texts, even without the rich environment that exists in a face-to-face conversation. The mechanisms involved in language production and comprehension are remarkably fine-tuned, flexible, and sensitive.

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## Appendix A. Text messages

### A.1: Text message with punctuation



How **sincere** do you think **Staci** is? Please circle the best option.

1	2	3	4	5	6	7
Very Insincere	Insincere	Somewhat Insincere	Neutral	Somewhat Sincere	Sincere	Very Sincere

A.2: Text message without punctuation

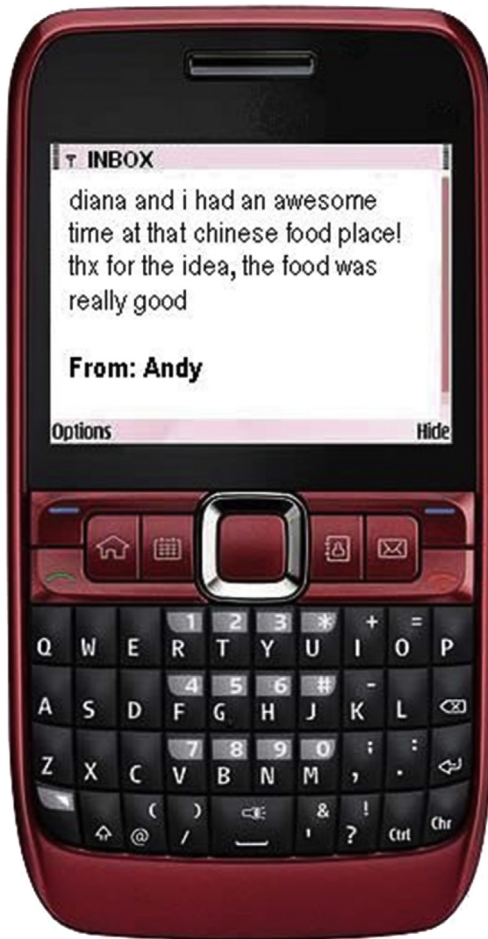


How **sincere** do you think **Staci** is? Please circle the best option.

1	2	3	4	5	6	7
Very Insincere	Insincere	Somewhat Insincere	Neutral	Somewhat Sincere	Sincere	Very Sincere



## A.3: Filler text message



How **sincere** do you think **Blake** is? Please circle the best option.

1	2	3	4	5	6	7
Very Insincere	Insincere	Somewhat Insincere	Neutral	Somewhat Sincere	Sincere	Very Sincere

**Appendix B. Handwritten notes***B.1: Handwritten note with punctuation*

Dave gave me his extra tickets.  
 Wanna come?  
 -Kevin

Sure.  
 -Staci

How **sincere** do you think **Staci** is? Please circle the best option.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Very</b>	<b>Insincere</b>	<b>Somewhat</b>	<b>Neutral</b>	<b>Somewhat</b>	<b>Sincere</b>	<b>Very</b>
<b>Insincere</b>		<b>Insincere</b>		<b>Sincere</b>		<b>Sincere</b>

## B.2: Handwritten note without punctuation

Dave gave me his extra tickets.  
Wanna come?  
-Kevin

Sure  
-staci

How sincere do you think Staci is? Please circle the best option.

1	2	3	4	5	6	7
Very	Insincere	Somewhat	Neutral	Somewhat	Sincere	Very
Insincere		Insincere		Sincere		Sincere



## B.3: Filler handwritten note

chana and i had an awesome  
time at that chinese food place!  
thx for the idea, the food was  
really good

-Andy

yeah man, no problem, glad you  
had fun

-Blake

How sincere do you think Blake is? Please circle the best option.

1	2	3	4	5	6	7
Very Insincere	Insincere	Somewhat Insincere	Neutral	Somewhat Sincere	Sincere	Very Sincere

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