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Necessary Smileys & Useless Periods

REDEFINING PUNCTUATION IN ELECTRONICALLY-MEDIATED COMMUNICATION

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Naomi S. Baron & Rich Ling

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ABSTRACT

Communication is increasingly taking place through written messaging using online and mobile platforms such as email, instant messaging and text messaging. A number of scholars have considered whether these texts reflect spoken or written language, though less is known about the role of punctuation. In fact, it is commonly assumed that punctuation on such platforms is either random or absent. This study explores the nature of punctuation (including emoticons) in electronically-mediated communication by analyzing sets of focus group data from adolescents discussing text messaging and by assessing a corpus of text messages sent by university students. Some usage patterns are gender-based. More generally, there is evidence that young people are developing coherent strategies for how such marks should be used in messages created on new digital media.

INTRODUCTION

Why do writers use punctuation marks? The history of punctuation (Parkes, 1993; Saenger, 1997) demonstrates an evolution not simply in the types of marks used but in their function. In the case of English punctuation, the major evolution was from rhetorical (also called correspondence) punctuation to grammatical (also known as logical) punctuation. English rhetorical punctuation derived from the classical model of using pointing to represent where to take a breath when reading a text aloud—and for how long. By contrast, grammatical punctuation marks give the reader clues as to the internal structure of sentences. This transformation went hand in glove with the transition to silent reading (Saenger, 1997) and the subsequent emergence of English print culture by the beginning of the eighteenth century (Chartier, 1989).

In more recent decades, punctuation (particularly in American English) has been undergoing a new set of changes. Written prose has increasingly come to record informal speech, rather than standing as an independent written genre (Baron, 2000). Evidence of this shift can be seen in the prose appearing in such previously formal publications as the *New York Times* or even *Time* magazine, or in the laissez-faire attitude towards proofreading written text (Baron, 2003). It is also manifest in the composition style of many university undergraduates (Danielewicz and Chafe, 1985), whose punctuation "errors" sometimes indicate a return to rhetorical punctuation. The move towards a casual prose style reflecting both informal speech and rhetorical punctuation provides the foundation for the specific punctuation issue that is the focus of the present analysis: punctuation in electronically-mediated communication.

Linguistic Issues in Electronically-Mediated Communication

Electronically-mediated communication (EMC) is the use of written language on hardware platforms such as computers and mobile phones.[1] In the literature, the term computer-mediated communication (CMC) is typically used to refer to historically computer-based software platforms such as email, listservs, instant messaging and blogs. However, with the profusion of mobile phones (and of text messaging), we need a broader term to encompass both computer-based and mobile

1. Speech is also possible in EMC (e.g., voice over internet protocols on computers and voice calls on mobile phones). However, when most scholars discuss contemporary EMC, they are referring to written communication.

phone-based technologies, particularly because it is increasingly possible to engage in all of the above types of communication on both computers and mobile devices.

Since the explosion of email and then instant messaging in the 1990s, the popular press has voiced concern that online communication, especially as used by teenagers and young adults, is leading to degradation of language standards. The linguistic culprits identified include misspellings, ungrammatical sentences, and, most noticeably, lexical shortenings, including abbreviations (e.g., *cuz* for *because*) and acronyms (e.g., *btw* for "by the way"). Parallel concerns have been voiced about misspellings and lexical shortenings in text messages (called SMS in much of the world) written on mobile phones (Thurlow, 2006).

As formal studies of electronically-mediated language consistently demonstrate, the linguistic character of such platforms as instant messaging and text messaging is not as worrisome as popular imagination might lead us to believe. In a study of instant messaging by university students, Baron (2004) found that in a corpus of 11,718 words, only 171 words (barely 1.5%) contained spelling errors. Of these errors, more than one-third were omissions of an apostrophe (e.g., *thats* for *that's*), and another third were simple omissions, additions, or errors of a single letter (e.g., *assue* for *assume*). As for lexical shortenings, there were only 31 cases of abbreviations that were specific to electronic communication (e.g., *cya* for "see you").[2] Similarly, there were only 90 EMC acronyms, of which 76 were *lol* (for "laughing out loud").[3] Moreover, very few emoticons (49) appeared in the corpus, of which 31 were a smiley face. Comparably sparse use of lexical shortenings and emoticons has been reported by Tagliamonte and Denis (2008) for instant messaging and by Thurlow and Brown (2003) for text messaging.

Beyond linguistic analyses of lexical shortening in instant messaging or text messaging, scholars have also explored the pedagogical consequences of engaging in such activity. Plester and Wood (2009) report a positive relationship between use of so-called textisms by young British children and success in traditional literacy skills. More generally, Crystal (2008) points up the linguistic creativity often involved in using abbreviations or acronyms when writing text messages.

While there is now a growing body of research on lexical issues in online and mobile media, we know far less about use of punctuation in EMC. To better understand the nature of EMC punctuation, this article draws upon two empirical studies involving text messaging by young people. Although both studies were

2. The tabulation excluded abbreviations common in everyday language used by this age cohort, e.g., *prob* for *problem*.

3. Common abbreviations such as *US* for "United States" were discounted.

conducted in the US, the literature that we review below suggests that some of these findings may be generalizable to other languages and cultures.

How do adolescents and young adults use punctuation in their text messages and, in the process, perhaps redefine the functions of traditional pointing? When we speak of punctuation in texting, we are including both traditional marks such as periods, commas, question marks, exclamation points, dashes and ellipses,[4] but also emoticons. Much like exclamation points, emoticons can express authorial sentiment (Dresner and Herring, 2010). Similarly, intentionally stylized spelling (e.g., repeating the <y> in *hey* to read *heyyyy*), though not technically part of punctuation, can function as an emotionally-tinged marker. We will explore this broader sense of punctuation, including both traditional marks and other written tools (e.g., lexical shortenings, emoticons and stylized spelling) that serve to indicate emotion, much as (single) exclamation points or use of multiple exclamation points or multiple questions marks (e.g., *!!!!* or *????*) can do.

In studying any linguistic aspect of EMC, it is important to be aware of potential variation in usage patterns, which may stem from a range of factors. One is age. For example, we would anticipate that teenage text messages employ different punctuation patterns than those of adults in their 50s or 60s, who would presumably be more likely to follow traditional written punctuation norms.[5] Another is culture. We cannot assume, for instance, that lexical shortenings or emoticons are used in the same way in the Philippines as in Germany. Rather, we need empirical data. Similarly, the particular EMC platform (e.g., instant messaging versus texting) may influence the type of punctuation used (Ling and Baron, 2007). Finally, gender may well make a difference, as it does in so many domains of language use (Baron and Campbell, 2010).

Exploring Punctuation Patterns in Text Messaging

The present study looks to enrich our understanding of how punctuation functions in contemporary EMC by exploring two sets of issues. The first set (Part I) focuses on the question of whether gender influences use of punctuation in text messaging and, if so, how. The second set (Part II) offers empirical evidence regarding whether punctuation in texting is random or principled, as well as whether such punctuation diverges in function from traditional written usage. Following Parts I

4. Colons, semicolons, parentheses and brackets are other forms of traditional punctuation. However, since they did not appear in our data, we exclude them from subsequent discussion. We also did not examine hyphens.

5. However, we do not know of empirical studies to date regarding age and use of punctuation in EMC.

and II, we reflect upon the state of punctuation in both online and offline written communication.

PART I: GENDER ISSUES IN EMC PUNCTUATION

The sociolinguistic literature has frequently reported that males and females tend to use language differently (e.g., Holmes and Meyerhoff, 2003; Lakoff, 1975; Tannen, 1994).[6] Linguistic distinctions run the gamut from who dominates the conversation to type of vocabulary, function of message, or use of politeness conventions. Scholars (e.g., Aries, 1996; Dindia and Canary, 2006; Tannen, 1993) have rightly observed that such differences in linguistic interaction sometimes reflect the relationship between interlocutors (including how long they have known one another and their relative position of status and power) rather than gender per se. Nonetheless, the correlations observed between gender and language are too strong to ignore, even if many are traceable to factors such as socialization and circumstance.

One domain in which studies repeatedly show usage distinctions associated with gender is in the overall purpose of communication. While women frequently use language to facilitate social interaction, men more commonly employ language for conveying information. This finding has been widely documented for face-to-face speech (e.g., Cameron, 1998; Eckert and McConnell-Ginet, 2003) and written communication (e.g., Argamon et al., 2003; Biber et al., 1998; Mulac and Lundell, 1994).

Is gender also reflected in punctuation found in traditional writing? The obvious candidate in traditional writing is the exclamation point, which expresses emotion. Emotion is associated more closely with social interaction than with conveyance of information. And indeed, Rubin and Green (1992) report that in a comparison of writing assignments done by university students, woman used three times as many exclamation points as did men.

Previous Studies of Gender, Language and EMC

The tendency for females to use language for social interaction and males for conveying information has also been observed in a number of forms of EMC. Looking at traditional computer platforms, findings have been reported from studies of email

6. In all of the gender discussion that follows, we have only been able to take into account traditional gender roles.

(e.g., Boneva et al., 2001; Colley and Todd, 2002), instant messaging (Fox et al., 2007; Lee, 2003) and blogs (e.g., Argamon et al., 2007).

A gender dichotomy is evident as well in text messages sent on mobile phones. Studies of adolescent and young adult mobile phone use in Norway (Ling, 2005), Japan (Igarashi et al., 2005; Okuyama, 2009; Schiano et al., 2007), Korea (Yoon, 2003), Hong Kong (Lin, 2005) and Taiwan (Wei and Lo, 2006) indicate that females are more likely to send text messages for social purposes, while males more commonly engage in information-seeking or planning. In the US, Lenhart et al. (2010) report that while 59% of teenage girls age 12–17 text several times daily to "just say hello and chat," only 42% of boys do so. Horstmanshof and Power (2005) found that Australian males tended to become disenchanted with texting because they were less willing (than females) to follow contemporary social texting conventions, such as immediately responding to texts or sending "good night" messages to significant others. Yates (2006) reported that female messages expressed more "support" and "affection" than did male messages.

Previous studies of instant messaging conversations indicate some of the ways in which young people shape their messages to facilitate social interaction. Baron (2004) reported that conversational closings between American females took twice as long (both in number of turns and time on the clock) as closings between males. Similarly, in comparing IM conversations between females and between males, Lee (2003) found that females used explicit openings and closing about 80% of the time, compared with males—who used them in less than 30% of messages. Similar findings regarding use of openings and closings are documented for text messages in Norway (Ling, 2005).

Moreover, mobile phone studies indicate that females send more and/or longer texts, or are more likely to use texting, than males. These findings are robust across cultural contexts, e.g., Australia (Littlefield, 2004), Finland (Oksman and Turtiainen, 2004), Hong Kong (Lin, 2005), Italy (Herring and Zelenkauskaite, 2008), Japan (Boase and Kobayashi, 2008; Miyake, 2007; Okuyama, 2009; Schiano et al., 2007; Scott et al., 2009), Norway (Ling, 2005), the UK (Yates, 2006) and the US (Lenhart et al., 2010).

With the emergence of electronically-mediated communication, emoticons (which first appeared in 1982—see Baron 2009) became an additional written tool for expressing emotion. The literature consistently indicates that females are more likely than males to use emoticons (or their equivalent, e.g., Japanese *kaomoji*, *emoji* or *de-mo*—Okuyama, 2009), along with exclamation points, both in online communication (e.g., Baron, 2004; Colley and Todd, 2002; Colley et al., 2004;

Herring, 2003; Lee, 2003; Waseleski, 2006; Witmer and Katzman, 1997) and in text messaging (e.g., Miyake, 2010; Scott et al., 2009).

Gendered Use of Punctuation in Teenage Text Messaging

The literature on gendered language use, including gendered use of EMC, suggests that text messaging is a relevant platform for investigating variance in punctuation use between males and females. To explore this question, we drew upon data from American teenagers.

In 2009, the Pew Internet & American Life Project, working in conjunction with the Department of Communication Studies at the University of Michigan, explored how a random sample of teenagers in the US used mobile phones. Statistical results of this research are reported in Lenhart et al. (2010). Among the questions asked in qualitatively-oriented focus groups was whether participants perceived differences in the ways that males and females used text messaging.

Research Questions Regarding Gender, Texting and Punctuation

Our present interest in the focus group data[7] is on perceptions of gender differences regarding punctuation used in text messaging:

- → What do male and female users, respectively, believe are appropriate punctuation marks to use in text messaging?
- → How do males and females judge use of punctuation marks in text messages written by the opposite gender?

Methodology

Focus groups were conducted in four cities within the US, between June and October 2009. There were 75 participants, ranging in age from 12 to 18. All but one of the nine groups were clustered by age and by gender to encourage free conversational give-and-take. Topics relating to mobile telephony included interaction with parents, use while driving, use in school, and use with friends. The analysis that follows centers on interaction with friends.

7. Some of these findings were presented in Ling et al. (2010) at the Association of Internet Researchers meetings in Gothenburg, Sweden, in October 2010.

Findings

Some of the participants' comments involved general issues relating to texting, particularly regarding amount of text messaging and length of texts. For example, a group of older females indicated that males were not "involved" texters, e.g.,

Lydia: "Boys don't like to text at all.... I just think they are a different species completely."

Jeri: "Boys...want to get to a point, like texting is supposed to be to a point, not three pages of explanation."

Males confirm this perception, e.g.,

Jason: "Girls is [stet] basically like, ... 'What you doing now?' Like they always want to know something, like really nosy basically. With guys it's just like 'OK', like, 'What are you doing?' 'Alright. Cool. You wanna do this?' 'OK.'

However, some of the students' remarks related specifically to punctuation.

WHAT PUNCTUATION DO MALES AND FEMALES THINK THEY SHOULD USE IN TEXT MESSAGES?

Male focus group participants had little to say about the sorts of punctuation that text messages (in general) should have. By contrast, females stressed the importance of punctuation in constructing text messages (again, in general). Consider the following discussion about appropriate—and inappropriate—ways to end a text:

Natalie: "[We get into an argument] if [interlocutors] say something and put a period at the end. It'll be like really abrupt. And you'll be like oh that sounded like they are mad."

When the interviewer asked whether girls in the group used exclamation points (or, by implication, other discourse softeners) at the ends of messages rather than periods, the responses were affirmative:

Maria: "I always do that with my texts. There's always a 'ha' or an 'LOL' or a smiley face.

Natalie: "I probably say 'haha' in almost all my texts to friends because if you send one word answers that's kind of mean. You're either busy or you're mad, so I tend not to do that, so I put an exclamation mark or a smiley face. Keep it a light conversation."

The girls are describing what might be called a concluding courtesy symbol. Thus they show an awareness that punctuation (including emoticons) can function as a conversational softener, almost like adding a "please" to a direct request such as "Pass the salt."

JUDGMENTS OF PUNCTUATION USED IN TEXT MESSAGES WRITTEN BY MEMBERS OF THE OPPOSITE SEX

In one focus group involving younger teenage boys, several participants observed that girls were more likely than boys to employ a variety of written conventions commonly described as typifying EMC, including lexical shortenings, stylized spelling, and emoticons, e.g.,

Carson: "Girls text really weird, like the spelling."
Ian: "They try to say like 'LOL'."
Lane: "Yeah, those short things, like smiley faces."

As we have seen, lexical shortenings (such as LOL) and stylized spellings can, like emoticons, be used to express personal sentiment, much like exclamation points.

Boys in a different focus group indicated they could judge the mood of a female interlocutor from her use of exclamation points and emoticons. In response to the interviewer asking how males could judge from a text message they received from a girl whether she was in a good mood, some of the responses were:

Carl: "Smiley face."
Thane: "A lot of exclamation marks."

Yet another group of males (this time somewhat older) indicated they could judge by the punctuation (or spelling) in girls' text messages if they were flirting:

Connor: "If there's more than one letter at the end of the word you can tell she's happy."
Hunter: "They say 'hey' with three *y*'s. And you can tell they're in a good mood."
Devin: "The winks."
(Several boys):"Smiley faces!"

When asked whether it was appropriate for males to send girls texts containing smiley or winky faces, the consensus was "no". In the words of one participant, "It's not a guy thing."

Girls participating in focus groups had their own observations regarding differences between the ways that males and females constructed text messages. Essentially, females complained that males had, in one participant's words, "No enthusiasm":

Hanna: "It's all like 'Yes,' and I don't know how to explain it. There's no enthusiasm at all."

When the interviewer asked if males ever used "any emoticons or smiley faces or something like that," one participant responded,

Grace: "You're lucky if you get something like that."

However, when the same interviewer inquired how girls knew if a boy was flirting with them in a text message, the response mirrored that of the males:

Hanna: "Like a wink face or a smiley face."

Conclusions Regarding Gender, Texting and Punctuation

Gender is clearly a relevant variable in shaping the punctuation practices in texting by American adolescents. Teenagers have clear ideas not only about how they should punctuate their text messages but also about the texting style of members of the opposite sex.

Female members of the focus groups were vocal about the importance of using emotion-tinged punctuation markers such as smileys, lexical shortening, or multiple exclamation points, both to express their "enthusiasm" for the communications they were crafting as well as to soften messages that might otherwise seem overly direct. By contrast, males were reluctant to engage in such practices (a fact noted by the females), and even complained about the excesses (e.g., use of emoticons, repeated letters in words) they observed in texts sent by females. These data support previous observations (for spoken language, traditional written language and EMC) that females are more likely to view communication as a form of social interaction, while males are more prone to see language as a medium for conveying information.

Having considered the role of gender in shaping use of emotion-tinged punctuation in text messaging, we now turn to questions concerning patterns of more traditional punctuation marks, this time in text messages sent by university students.

In Fall 2005, the authors collected a sample of text messages written by American university students. While the sample was small, and while texting was still a relatively new communication tool among young people in the US at the time, our study appears to have been the first linguistic attempt to quantitatively chart use of punctuation in texting.

Research Questions Regarding Punctuation Patterns and Functions in Texting

Two punctuation-related research questions addressed a complaint often voiced in popular media: that traditional punctuation in EMC is either non-existent or random. Our first question was therefore

→ Are there regularities in the use of traditional punctuation marks found in text messages written by university students?

We recognized that regularity might exist, even if it did not follow traditional conventions for punctuation use (i.e., as found in grammar handbooks or publication style sheets). Therefore, our second question was

→ Do university students composing text messages functionally re-purpose any traditional punctuation marks?

Methodology

A convenience sample of text messages was collected from undergraduates at a large, public university in the American Midwest. Methodological limitations restricted the participants to 22 female students. Subjects were asked to use a paper diary to record, verbatim, all text messages they sent over a 24-hour period. Admittedly, handwritten diaries of this sort are susceptible to errors (e.g., not including all text messages actually sent or "correcting" the punctuation used to make it look more like traditional punctuation). However, at the time the data were collected, paper diaries of this sort were the most efficacious way of gathering texting data.

The resulting corpus was 191 text transmissions. This number pales in the face of the explosion of texting that has taken place in the US over the past five years, with many young people now sending and receiving more than 100 text messages per day (Lenhart et al., 2010). However, our sample offers a window onto early punctuation

practices in American texting, though we cannot confirm that these same practices persist today.[8]

Coding of the data was done as follows:

- → Each text message was analyzed to see how many sentences it contained. (As we will see, some messages contained more than one sentence.)
- → Each sentence in the corpus was coded as a declarative (e.g., "Im at work til like 930"), interrogative (e.g., "Lunch 2day?"), imperative (e.g., "yes call me"), or exclamation (e.g., omg!!!)
- → The punctuation in each sentence was analyzed with respect to
  - → marks we would expect to find (e.g., period at the end of a declarative sentence; question mark at the end of an interrogative)
  - → marks actually used, especially at the ends of sentences

The punctuation we analyzed included periods, question marks, exclamation points, ellipses, dashes, commas and emoticons.

Findings

OVERALL PROFILE There was a total of 336 sentences in the texting corpus. That is, many of the 191 messages contained more than one sentence. Table 1 presents the punctuation data with respect to individual sentences. The table reports the percent of sentences in which a particular type of punctuation appeared.

No punctuation	61.4%
Period	9.1%
Question Mark	13.0%
Exclamation Point	4.7%
Ellipsis	8.8%
Dash	0.3%
Comma	2.1%
Emoticon	0.6%

Table 1. Percent of Sentences in Texting Corpus Having Punctuation Marks

8. To our knowledge, there have not been fine-grained studies of punctuation involving more recent texting corpora.

Many sentences within the texting corpus (61%) contained no punctuation at all. The most common type of punctuation was questions marks (13%), followed by periods and ellipses—each appearing in roughly 9% of sentences. (We return to the issue of ellipses in our discussion of re-purposing traditional punctuation marks.) While some exclamation points (nearly 5% of sentences) were used, commas appeared in barely 2% of the sentences. Emoticons and dashes each appeared in less than 1% of sentences. Note that the paucity of emoticons in the university-student texts (all from females) contrasts with reports of heavy usage from females in the adolescent focus groups (see Part I above). The discrepancy in emoticon use could reflect age differences (i.e., teenager girls may view emoticons as more vital than female university students). Alternatively, the discrepancy might reflect the fact that the university texting corpus was collected in 2005 (before texting became rampant in the US), while the focus groups with teenagers were done in 2009.

At first blush, the fact that so many sentences had no punctuation (including traditional end-mark punctuation such as periods or question marks) would appear to support popular perceptions that punctuation in text messaging is sparse. However, as we shall now see, there were interesting discernible patterns, especially in the way sentence-final punctuation was used.

REGULARITIES IN PUNCTUATION USE Nearly 60% of messages contained more than one sentence, with a mean of 1.8 sentences per text message. Therefore, it was possible to analyze sentence-final punctuation both for the end of the entire text message ("transmission-final") and, in more than half the text messages, for transmission-internal sentences. Examples of multi-sentence text messages include

> I'm here till Sunday, I can come by whenever
> So bored in class...what are you doing?
> I'm correcting this paper. Ill call when im done

Table 2 reports the percent of instances in which sentence-final punctuation (an "end-mark") was used, along with the percent of sentences for which either a question mark or a period was required by traditional punctuation rules.

overall sentence end-marks	39% of sentences
transmission-final end-marks	29% of sentences
transmission-internal end-marks	54% of sentences
use of required question mark (all sentences)	73% of questions
use of required period/exclamation point (all sentences)	30% of declaratives, imperatives, exclamations

Table 2. Percent of Sentences with End-Mark Punctuation

There was an imbalance in use of sentence-final punctuation. Of the total 336 sentences, 39% had sentence-final punctuation. However, use of end-mark punctuation was far higher (54%) when the sentence was not at the end of a text message than for transmission-final sentences (29%). These results suggest that creators of texts were following what we might call a Principle of Parsimony: Omit punctuation, especially periods, at ends of messages. Such transmission-final parsimony does not compromise message intelligibility, since the recipient understands the interlocutor is finished by virtue of the fact the message has been sent.

Similarly, analysis revealed a far higher use of question marks to end questions (73%) than use of periods or exclamation points to end other sentence types (i.e., declaratives, imperatives, exclamations). Periods and exclamation points were used at the ends of only 30% of such sentences. Here, we posit a Principle of Informational Load: Question marks carry more discourse information than periods or exclamation points because they signal a request for a response from interlocutors. (In the corpus, 18.6% of all sentences were interrogatives.)

RE-PURPOSING OF TRADITIONAL PUNCTUATION MARKS: ELLIPSES, EXCLAMATION POINTS AND SMILEYS

Given the substantial number of ellipses used in the corpus (29 in total, appearing in almost 9% of all sentences), we were interested to see how these ellipses were functioning. Examples included

> its fine...
> you still in class...call me when your home

In reviewing the data, it became clear that ellipses were replacing a variety of traditional punctuation marks (in the samples above: a period and a question mark, respectively). Table 3 reports the functions these ellipses were serving, that is, what traditional punctuation mark they appeared to be replacing.

Use of ellipsis instead of:	
Period	80.0%
Question mark	6.7%
Comma	3.3%
Other type of pause	10.0%

Table 3. Percent of Ellipses Substituting for Traditional Punctuation Marks

In traditional formal writing, ellipses denote omitted text, such as in a quoted passage ("To be or not to be...is the question"). In more informal writing, ellipses are sometimes used to indicate speech trailing off (" I know what you mean..."), for dramatic effect ("and the winner is...Angelie Jolie."), or to separate sentences in lieu of a more standard period (e.g., "It's hard to read the gambler's motives... he's stalling for time."). Inasmuch as text messaging tends to be quite informal and commonly contains more than one sentential unit, it was not surprising to find ellipses appearing in the texting corpus, especially in lieu of periods.

Two other forms of punctuation, exclamation points (appearing in almost 5% of sentences) and emoticons (of which only two appeared), are also worthy of note in considering how punctuation is being redefined in text messaging. In the case of exclamation points, while the mark is obviously part of standard written punctuation, formal English conventions call for parsimonious use—and only one at a time. In our texting corpus, many of the exclamation points appeared in multiples (e.g., "omg!!!"). In other instances, a single exclamation point was accompanied by exaggerated spelling (e.g., "luckyyy!"). Both of the smileys occurred at the ends of sentences in lieu of a traditional period, i.e.,

> Ok:/
> or something :)

Seen in light of our earlier discussion of the teenage focus groups, the use of ellipses, exclamation points and smileys in the university-student texting corpus—mostly to replace periods—can be seen as a way of softening or adding emotion to messages. Recall Hanna's comment (from the focus groups) that male text messages lacked "enthusiasm" and Natalie's remark that "if [interlocutors] say something and put a period at the end...it'll be...abrupt."

Conclusions Regarding Punctuation Patterns and Functions in Texting

The corpus of university-student text messages clearly suggests that texting punctuation is not chaotic. While many texts lacked any punctuation, those in which punctuation did appear revealed rational choices about when to use traditional punctuation in sentence-final position (i.e., the Principle of Parsimony, whereby transmission-final punctuation tends to be omitted, and the Principle of Informational Load, whereby periods are more likely to be omitted than question marks). In addition, students re-purposed the traditional ellipsis to fill the role of periods, as well as using exclamation points and smileys to replace periods while simultaneously expressing emotion and/or softening the directness of the message.

DISCUSSION

Since text messages are written language, we logically anticipate they will contain punctuation marks. Yet is it reasonable to expect punctuation to function the same way in texting that it does in traditional written language?

As we have seen, text messaging is part of the broader phenomenon of electronically-mediated communication. Much has been written about the stylistic conventions of EMC (e.g., Baron, 2008; Crystal, 2001, 2008; Hale and Scanlon, 1999), including about its informality, its oral character and the fact it is often composed rapidly and with little editing. In light of the laissez-faire conditions under which most EMC is written, we should not be surprised if the punctuation that does appear in EMC has its own character.

In this study, we have explored two dimensions of punctuation in text messaging. First, we looked at whether gender influences punctuation patterns, particularly with regard to emotion-tinged punctuation such as emoticons, lexical shortenings and multiple exclamation points. We found it did, offering yet more evidence for previous discussion of distinctions in the ways males and females use

language. While the adolescent boys in the focus groups were comfortable ending their text messages when they had gotten their point across, teenage girls felt it was important to soften their messages with concluding courtesy markers so as not to appear rude or uninterested in the communicative exchange.

Second, we considered whether punctuation in texting is random or structured. The texting corpus we examined suggested clear patterns in the way that traditional punctuation was being used, which we attempted to capture with the notions of a Principle of Parsimony and a Principle of Informational Load. We also found evidence of re-purposing of traditional punctuation usage, particularly with regard to ellipses.

At the beginning of this article, we noted a general contemporary trend for written language to record informal speech, along with a concomitant tendency for punctuation to be used rhetorically rather than grammatically. These tendencies are reflected in the data we examined on text messaging, wherein EMC punctuation (at least among adolescents and young adults) can lend an oral tone to the messages. Female members of the teen focus groups were sensitive to the conversational need to soften the tone of their messages through smileys and the like, in some sense approximating intonation features or facial gestures they might use in face-to-face conversation. Similarly, among the university students, use of ellipses in lieu of periods, especially following transmission-internal sentences (e.g., "So bored in class...what are you doing?") suggests the kind of pauses familiar in speech.

EMC Punctuation in Broader Context

In our discussion of EMC punctuation, we have compared relevant data with other empirical studies of written corpora. What we have not yet considered is the state of punctuation education—or of punctuation itself—in broader social or linguistic context. However, to ignore such context runs the risk of making EMC seem more exotic than perhaps it really is.

It is true that people using text messaging are not "taught" what punctuation to use, but rather work out patterns themselves or adopt the punctuation style of their interlocutors. Yet we must also keep in mind that at least in the contemporary US, punctuation is often barely taught in schools, so that many current teenagers and adults have few offline norms against which to compare their texting style. Yes, young students are still instructed regarding periods, question marks, and capital letters. But the intricacies of commas, colons, semicolons, apostrophes, and hyphens are often left to chance. As a result, it is perhaps not surprising that many young people feel little external constraint in how they punctuate text messages.

Even authoritative voices—both in the US and the UK—are themselves increasingly conflicted about when (and whether) to use marks such as hyphens and apostrophes. The *Shorter Oxford English Dictionary* recently eliminated 16,000 hyphens from its sixth edition (e.g., *water-bed* is now *water bed* and *death-knell* became *death knell*) (McGrath, 2007). Similarly, in 2009, the city of Birmingham (UK) removed the apostrophes on many street signs, rendering the likes of "St Paul's Square" as "St Pauls Square" ("City Drops Apostrophes from Signs," 2009). Even if we do teach children punctuation, what do we teach? Equally difficult to resolve may be the question of whether such offline shifts in punctuation will find their way into EMC—and whether we will nonetheless "blame" EMC for degrading punctuation standards.

Perhaps the most important lesson deriving from our analysis is that the study of punctuation cannot be separated from a broader linguistic context. That context may be one of gender differences in language use or of the embeddedness of EMC in contemporary offline writing style. The future of punctuation in both online and offline contexts remains in flux, but the fates of each will, in all likelihood, be intertwined.

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AUTHOR NOTES

NAOMI S. BARON is Professor of Linguistics at American University in Washington, DC. A Guggenheim Fellow and Fulbright Fellow, she is the author of seven books, including *Alphabet to Email: How Written English Evolved and Where It's Heading* (2000) and *Always On: Language in an Online and Mobile World* (2008), which won the English-Speaking Union Duke of Edinburgh English Language Book Award for 2008. Recently she completed a study of mobile phone use in cross-cultural context, gathering data in Sweden, the US, Italy, Japan and Korea. She has just begun a research project comparing reading onscreen versus in hard copy.

RICH LING is a Professor at the IT University of Copenhagen. He has also been the Pohs Visiting Professor of Communication Studies at the University of Michigan where now he holds an adjunct position. He is the author of the books *New Tech, New Ties* (MIT) and *The Mobile Connection.* Along with Scott Campbell he is the editor of The Mobile Communication Research Series and he is an associate editor for *The Information Society, Norsk Medietidsskrift* and *Information Technology and International Development.*