

Talk about Texting: Attitudes towards Mobile Phones

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Abstract

More than half the world's population now has access to mobile phones. While these devices enable spoken communication, many users (especially teenagers and young adults) heavily employ them for sending and receiving written text messages. There is a growing literature on the linguistic features of text messages, but much less is objectively known about user attitudes towards texting (or towards mobile phones in general). Drawing upon data from a cross-cultural mobile phone project involving university students in Sweden, the US, Italy, Japan, and Korea, this study examines user perspectives on mobile communication, with special emphasis on texting functions.

Keywords

culture, Italy, Japan, Korea, mobile phones, Sweden, text messaging, United States

The growth of mobile communication has been remarkably rapid. According to the International Telecommunication Union, in 1998, there were 318 million mobile phone subscriptions in the world. A decade later (2008), there were 4.1 billion – out of a world population of 6.7 billion people (http://www.itu.int/ITU-D/ict/statistics/at_glance/KeyTelecom99.html). Mobile phone consumption crosses national and demographic boundaries (Ling and Donner 2009), with some of the most rapidly-growing use found in newly-developing parts of the world in which conventional landlines (and even running water) are luxuries.

Mobile phones are multifunctional devices. Depending upon the national context (and particular service provider), they may be used for making purchases from vending machines, paying tax bills, pointing the way towards Mecca (Bell 2005), inciting rites (Quist-Arcton 2008), or accessing mobile news (Westlund in press). But primarily, they are employed for communication, most often by talking or doing text messaging.

Accurate usage figures are hard to come by, particularly because usage changes so quickly. But consider these statistics for the United States, reported by CellSigns.com:

- In June 2006, 12.5 billion text messages were sent each month
- In June 2008, 75 billion text messages were sent each month

(data source: CTIA)

- In the second quarter of 2006, US wireless subscribers averaged 216 voice calls and 79 text messages a month
- In the second quarter of 2008, US wireless subscribers averaged 204 voice calls and 357 text messages a month

(data source: Nielsen Mobile). The volume – and proportion – of talking versus texting varies considerably with age. For example, for the second quarter 2008 data reported by Nielsen

Mobile, these are usage statistics for three American age cohorts:

Age	Average monthly voice calls (made and received)	Average monthly text messages (made and received)
13-17	231	1742
18-24	265	790
45-54	193	128

(‘More SMS than calls’ 2008). By the end of 2008, American teenagers were up to an average of 2,272 texts per month (Hafner 2009).

Mobile phones (along with the internet, more generally) have facilitated a lifestyle of being ‘always on’ (Baron 2008a), meaning that people have the technological capacity for being continuously available to potential interlocutors, through one or more media (speech, writing, and/or video). While connectivity has a myriad of benefits (from handling emergencies to doing business or chatting with friends), there are also drawbacks to being in ‘perpetual contact’ (Katz and Aakhus 2002). Such drawbacks run the gamut from disrupted sleep to carpal tunnel syndrome (from constant texting), distraction from the cognitive or social task at hand, or clinical addiction. In short, mobile technologies potentially place users in the conflicting position of being at once liberated by and tethered to the device.

The present study explores this conundrum, with special emphasis on the advantages and disadvantages that users perceive text messaging on mobile phones to have. To set the context for this discussion, we begin by situating text messaging within the broader domain of computer-mediated communication.

Text Messaging as Computer-Mediated Communication

With the introduction of networked computing nearly forty years ago, an evolving set of platforms emerged that enabled users to communicate with one another in written electronic form. These have included email, computer conferencing, newsgroups, listservs, instant messaging (IM), chat, blogs, and social networking sites (Baron 2008a: Chapter 2). By the 1990s, communication scholars and linguists generally referred to written messages exchanged online as ‘computer-mediated communication’ (more commonly know as CMC). There is a substantial literature on CMC, including Herring (1996), the contents of the *Journal of Computer-Mediated Communication*, and a plethora of articles, especially on the more modern forms of CMC such as IM, blogs, and social networking (e.g., Baron 2004, in press; boyd and Ellison 2007; Herring et al. 2005; Tagliamonte and Denis 2008). Text messaging on mobile phones is obviously a written form of mediated communication as well, though not literally transmitted via computer. In reality, however, distinctions between computers and mobile phones are rapidly fading, as computers incorporate voice-over-internet protocols and as mobile phones offer internet access.

Text messaging on mobile phones first emerged in 1993. A multinational European initiative known as Groupe Spécial Mobile, or GSM, had formed in 1982 to create a single (voice) mobile telephone system that would function throughout Europe. The system was in operation by 1992. Almost as an afterthought, a bit of leftover bandwidth was made available (originally, at no cost) on which users might create short messages on the small phone keypad by hitting the number keys between one and four times to produce alphabetic characters. This Short Message System (SMS) soon became extremely popular, especially with teenagers and young adults. Even when GSM began charging for the service, the cost of sending an SMS was still less than placing a voice call. Text messaging was born.

Largely because of its low cost, use of text messaging (commonly known as SMS in most countries outside of North America) became widespread in Europe and Asia. (In the US, texting was not popularized until nearly a decade later, due to costly pricing plans, plus the prior widespread use of IM on computers by American teenagers and young adults.) Texting as a communication medium has attracted growing scholarly interest, including studies of the linguistic features of text messaging (e.g., Crystal 2008; Ling and Baron 2007; Thurlow 2003) and analyses of the social dynamics of texting (e.g., Harper, Palen and Taylor 2005; Katz 2008; Katz and Aakhus 2002).

Over the past decade, several issues have dominated popular discussions of computer-mediated communication and have found their way into the research literature as well. The first question centered on whether CMC was better described as a form of spoken or written language (e.g., Baron 1998; Crystal 2001). Later, discussion turned to whether the kinds of abbreviated language popularly associated with email, IM, and now especially text messaging is harming the written skills of young users (e.g., Crystal 2008; Plester, Wood and Bell 2008; Thurlow 2006).

In this article, we explore a different issue: What do users think about mobile communication, especially text messaging? In particular, do they feel a contradictory pull between the advantages and disadvantages of mobile phones? Our analysis draws upon data collected from university students in five countries. The study (the American University Cross-Cultural Mobile Phone Project) is described below.

Obviously, many variables might help shape people's use of and attitudes towards mobile phones. These include cost of using various functions (especially talking versus texting), experience with the technology, cultural norms, and gender. While data were collected on all these issues, the only variable upon which we report here is culture.

RESEARCH QUESTIONS

To investigate usage patterns and attitudes regarding mobile phones, we need to begin with a profile of how much mobiles were being utilized by subjects in our sample. Therefore, our first research question was:

RQ1: How many voice calls and text messages were initiated and received in the course of a day?

We were interested to see whether usage volume varied across cultures and whether there were correspondences between usage volume and attitudes towards mobile phones.

Our second research question focused on user attitudes. Such attitudes can be assessed in various ways, including exploring reasons for deciding whether to talk or to send a text message, free association with the phrase ‘mobile phone’, or open-ended questions regarding what users like most and least about having a mobile phone. Our question was:

RQ2: Responding to a variety of survey techniques, what do users reveal regarding their attitudes towards mobile phones?

This exploratory question was designed to generate profiles of how university-aged users conceptualize their mobile phones – and their relationships to them. We were interested in seeing if these responses differed across cultures.

From our earlier studies of university student usage of information and communication technologies (ICTs) (Baron, Squires, Tench and Thompson 2005; Baron 2008: Chapter 7), we hypothesized that young adults might sometimes have conflicting sentiments regarding mobile phones (e.g., while providing freedom of communication, phones also might create a sense a

dependency or stress about the need always to respond). Our third research question looked at this question of conflict:

RQ3: Judging by responses to open-ended questions about what they like most and like least about their mobile phones, do young adults evidence conflicting attitudes regarding mobile phones?

Again, our focus will be on texting issues, though we reference findings regarding mobile phones more generally – in part because subject responses often did not distinguish between texting versus other functions.

AMERICAN UNIVERSITY CROSS-CULTURAL MOBILE PHONE PROJECT

Methodology

Data were collected between Fall 2007 and Fall 2008 from 18-24 year-old university students in Sweden, the US, Italy, Japan, and Korea. Students were recruited to complete an online questionnaire (using advertisements, word-of-mouth, and information posted on course websites), resulting in a convenience sample. The questionnaire was constructed in English but then translated into Swedish, Italian, Japanese, and Korean.

The survey, which took about ten minutes to complete, was administered through a URL link to the professional version of SurveyMonkey, an online survey tool that can be implemented in a variety of languages and scripts. Focus groups were also conducted in all countries but Korea, though these findings are not analyzed here.

Terminological Note

In presenting data from different countries, we maintain the local terminology for referring to text messaging (e.g., ‘texting’ in the US; ‘SMS’ or ‘sms’ in Sweden, Italy, and Korea). In most of the world, the term ‘mobile phone’ (or simply ‘mobile’) is common (rather than ‘cell phone’ or ‘cell’, as used in North America). The Japanese word for a mobile phone, ‘*keitai*’ (‘something you carry with you’), has been retained, since the cultural ramifications of the term are different from those of ‘mobile phone’ in other societies (Ito, Okabe and Matsuda 2005). Note also that in Japan, the closest equivalent of ‘text messaging’ is ‘*keitai* email’ (sometimes simply ‘mail’). ‘*Keitai* email’ should not be confused with email as traditionally sent via computers.

Subjects

A total of 2001 university students aged 18-24 from Sweden (N=171), the US (N=523), Italy (N=616), Japan (N=529), and Korea (N=162) completed the online questionnaire. Subjects were drawn from two universities (in different cities) in each country. The subject pool was between 61% and 82% female. Average age ranged from 19.8 years (in both the US and Japan) to between 21 and 22 in Sweden, Italy, and Korea.

Survey Questions

The full survey (excluding demographic information) consisted of 54 quantitative (or scalar) questions, a word-association question, and 5 open-ended questions. Responses to the open-ended questions were translated into English by fluent bilinguals (of Swedish, Italian, Japanese, and Korean, respectively) and then hand-coded, using scoring matrices that encompassed data from all five countries. The present study focuses on three subset of questions.

RQ1: Frequency of use

- Talking: ‘Yesterday, what was the combined total number of voice calls you made and received on your mobile phone? Include voicemails you left for other people and that you received.’
- Texting: ‘Yesterday, what was the combined total number of text messages you sent and received on your mobile phone?’

For both talking and texting, respondents were asked to select from a range of intervals (e.g., 0, 3-4, more than 30). Some intervals were later collapsed for purposes of analysis.

RQ2: Attitudes towards mobile phones

The first attitudinal measure drew upon a cluster of scalar questions exploring reasons for deciding to send a text message or initiate a voice call. The two specific questions of relevance for the present study were:

- Deciding to text rather than talk:
‘I want to make my message short, and talking takes too long.’
- Deciding to talk rather than text
‘Sending a text message takes too much effort.’

For both questions, subjects were asked to choose from the following responses: ‘very important’, ‘somewhat important’, ‘not very important’, or ‘not important at all’.

A second measure of attitudes towards mobile phones was a free-association task. Early in the survey, subjects were asked:

- 3 words: ‘What are the first three (3) words you think of what you think of mobile phones?’

In the present study, we examine only the first word that subjects provided, and specifically words relating to voice functions (e.g., *calling, chat, talking*) or text messaging (e.g., *SMS, text messaging, txt*). For a fuller description of the coding scheme and findings, see Baron (2009).

A third measure of attitudes was open-ended questions, appearing at the end of the survey, probing what users liked most and liked least about having a mobile phone:

- like most: ‘What is the one thing you like most about having a mobile phone?’
- like least: ‘What is the one thing you like least about having a mobile phone?’

Figure 1 presents and illustrates major coding categories for the ‘like most’ and ‘like least’ data.

Major category	Sample subcategories
Physical attributes/functions	<p>LIKE MOST: multipurpose device (e.g., ‘I have everything I need in my hand’), entertainment (e.g., ‘music’)</p> <p>LIKE LEAST: ringtones (e.g., ‘annoying ringtones’), voicemail (e.g., ‘I absolutely hate voicemails’)</p>
Communication	<p>LIKE MOST: contact (e.g., ‘connected to the world’), I contact others (e.g., ‘contact people anywhere’), others contact me (e.g., ‘can be reached no matter where I am’), written language (e.g., ‘able to send SMS’)</p> <p>LIKE LEAST: contact (e.g., ‘can’t be out of touch’), I contact others (e.g., ‘I have a hard time not calling the people I probably shouldn’t call’), others contact me (e.g., ‘want to be undisturbed’), written language (e.g., ‘texting is stupid’), disruption of the social order (e.g., ‘people are on the phone too often and too loud’)</p>
Evaluation	<p>LIKE MOST: mobility (e.g., ‘portability’), convenience (‘easy to use’), general evaluative terms (e.g., ‘It is practical’)</p> <p>LIKE LEAST: mobility (e.g., ‘have to carry it around’), dependency (e.g., ‘constantly and obsessively checking’), equipment issues (e.g., ‘easily breaks’), transmission issues (e.g., ‘bad connection’), general evaluative terms (e.g., ‘annoying’)</p>
Cost issues	<p>LIKE MOST: affordability (e.g., ‘can call for free on nights/weekends’)</p> <p>LIKE LEAST: affordability (e.g., ‘costs too much’)</p>
Safety issues	<p>LIKE MOST: general issues (e.g., ‘feel safer driving long distances’)</p> <p>LIKE LEAST: safety of handset (e.g., ‘theft’), radiation (e.g., ‘causes brain tumors’)</p>
No comment	<p>LIKE MOST: [no examples]</p> <p>LIKE LEAST (e.g., ‘no disadvantages’)</p>

Figure 1 Coding for ‘like most’/‘like least’ open-ended questions

RQ3 Conflicting attitudes regarding mobile phones

We reviewed the ‘like most’/‘like least’ data for evidence of conflicting attitudes towards mobile phones. For example, while one subject enthused that the mobile phone made him ‘feel connected to the world’, another complained he was ‘obsessed with contacts from friends’. Our analysis is organized into five categories:

- Reachability

‘Reachability’ refers to the extent to which users were enthusiastic (‘like most’) about the possibility of being in contact with others (especially, being able to reach others) as opposed to negative (‘like least’) about such contact (especially, others being able to reach them).

- Freedom vs. entrapment

The notion of freedom entailed such domains as accessibility, privacy, convenience, alleviation of boredom or isolation, and control. Entrapment included addiction, alienation, being controlled, feeling pressured to always respond, loss of tranquility, loss of privacy, and stress.

- Effects on spoken and written communication

Topics included advantages of texting over talking, complaints about people texting rather than talking, perceptions that mobile phones did not permit ‘real’ communication, concerns that mobile phones disrupted spoken interaction, and comments about the physical difficulty of constructing text messages.

- Effects on personal interaction

Comments included positive and negative effects of mobile phones upon friendships, along with complaints about poor manners when using mobiles.

- Attitudes towards mobile phone functions

At issue here were comments about available functions (e.g., alarm clock, internet), along with complaints about too few – or too many – functions.

RESULTS: FREQUENCY OF USE (RQ1)

Subjects were asked to report the number of voice calls (made and received) and text messages (sent and received) the previous day. Table 1 reports these results.

		0-4	5-10	≥11	(≥ 30)
Sweden (N=171)	voice	62%	32%	6%	(0%)
	text	56%	31%	13%	(1%)
US (N=523)	voice	49%	38%	13%	(1%)
	text	40%	27%	33%	(11%)
Italy (N=616)	voice	79%	19%	2%	(0%)
	text	33%	27%	40%	(17%)
Japan (N=529)	voice	85%	13%	2%	(1%)
	text	18%	30%	52%	(16%)
Korea (N=162)	voice	48%	35%	17%	(2%)
	text	4%	15%	81%	(44%)

NOTE: Data from the last column (≥ 30) are included in the tally for ≥11.

Table 1 Percent of voice calls (made or received) and text messages (sent or received) previous day

Overall, Swedes reported the lowest use of both voice calls and texting, while Koreans reported the heaviest use of both functions. While only 6% of Swedes indicating engaging in ≥11 voice calls the previous day, 17% of Koreans indicating doing so. As for texting, while 13% of Swedes said they sent or received ≥11 text messages, 81% of Koreans gave this response –with 44% of Korean subjects reporting 30 or more texts.

Americans made comparatively heavy use of voice functions (with 13% stating they had made or received ≥ 11 voice calls the previous day). Both Italians and Japanese reported far lower use of voice functions: only 2% of each cohort noted using ≥ 11 voice functions the previous day. By contrast, both groups made substantial use of texting (40% of the Italians and 52% of the Japanese reported ≥ 11 texts the previous day).

In all countries, subjects indicated using higher volumes of text messages than voice calls, with the ratios of ≥ 11 ranging from 2:1 (Sweden) to 25:1 (Japan). Texting is clearly an important function for these mobile phone users.

RESULTS: ATTITUDES TOWARDS MOBILES (RQ2)

Deciding to Text or Talk

Our first set of attitudinal questions explored reasons for deciding to send a text message or initiate a voice call. Tables 2 and 3 summarize responses to the following two questions:

- Importance of reason for deciding to text rather than talk:
‘I want to make my message short, and talking takes too long.’
- Importance of reason for deciding to talk rather than text:
‘Sending a text message takes too much effort.’

	Very Important	Somewhat Important	('Very' + 'Somewhat' Important)	Not Very Important	Not Important at All
Sweden (N=171)	34%	40%	(74%)	15%	12%
US (N=523)	38%	34%	(72%)	18%	11%
Italy (N=616)	35%	36%	(71%)	22%	7%
Japan (N=529)	13%	31%	(44%)	44%	12%
Korea (N=162)	11%	37%	(48%)	46%	6%

NOTE: Because of rounding, not all rows sum to 100%. The center column ('Very + Somewhat Important') is not included in the summation.

Table 2 Texting to keep the message short

	Very Important	Somewhat Important	('Very' + 'Somewhat' Important)	Not Very Important	Not Important at All
Sweden (N=171)	18%	30%	(48%)	24%	27%
US (N=523)	24%	33%	(57%)	23%	20%
Italy (N=616)	15%	24%	(39%)	31%	30%
Japan (N=529)	53%	32%	(85%)	12%	4%
Korea (N=162)	24%	38%	(62%)	29%	9%

NOTE: Because of rounding, not all rows sum to 100%. The center column ('Very + Somewhat Important') is not included in the summation.

Table 3 Talking because texting takes too much effort

In the three Western countries (Sweden, the US, and Italy), three-quarters of the subjects indicated that ‘keep[ing] the message short’ was a ‘very’ or ‘somewhat’ important reason for deciding to text rather than talk on their mobile phone. Focus groups in all three countries revealed that college students commonly voiced concerns about becoming entrapped in extended conversations if they communicated by phone. By choosing to text, they could convey information of their choosing without being obligated to hear out their interlocutor.

In the two Far Eastern countries (Japan and Korea), only slightly less than half of the subjects found this rationale for choosing to text rather than talk to be ‘very important’ or ‘somewhat important’. The difference is particularly stark for ‘very important’: While one-third of the Western subjects voiced this sentiment, only 11%-13% of the Japanese and Koreans did so.

Effort involved in texting proved a relevant reason for choosing to talk instead. In Sweden, the US, and Italy, between 39% (Italy) and 57% (US) of subjects indicated that effort was either a ‘very important’ or ‘somewhat important’ reason for deciding to talk. By contrast, in Japan, 85% found effort to be a ‘very important’ or ‘somewhat important’ reason to talk rather than text, while the statistic for Korea was 62%.

Two variables may be at play here. The most important is differences in writing systems. While texting in Swedish, English, and Italian is done using versions of the Roman alphabet, texting is slightly more complex in Korea, and most complex in Japan. Korean texting is done in *hangul* (a syllabary), though users are able to employ the Roman alphabet (e.g., for English words) as well. In the case of Japan, users switch among four writing schemes: *kanji* (Chinese characters), two syllabaries (*hiragana* and *katakana*), and Roman script. In our discussion below

of conflicting attitudes towards mobile phones, we will see Japanese subjects voicing complaints about the difficulty of doing texting.

In light of the skill and dexterity needed to create text messages on Japanese *keitai*, it may seem surprising that Japanese university students used as much text messaging and as little voice functionality as we reported in Table 1. Their decision is rooted in traditional cultural strictures in Japan against speaking about private affairs in public space (Baron and Hård af Segerstad in press). Nonetheless, it is noteworthy that over half the Japanese subjects (53%) indicated that the effort involved in texting was a ‘very important’ reason for talking on the mobile instead.

A second explanation for our findings involves the amount of experience users had with texting. Both Swedes and Italians in the study averaged 7 years of experience with text messaging, while Americans averaged 3 ½. It is therefore not surprising that among the Western (alphabetic) users, American participants were more likely than Swedes or Italians to indicate they would choose to talk because of the effort involved in texting.

Mentions of Talking and Texting: First Word in Free Association Task, ‘Like Most’/‘Like Least’ Questions

A second set of questions gauging student attitudes towards mobile phones utilized the free-association task and open-ended questions regarding what subjects liked most and least about having a mobile phone. Table 4 summarizes the percent of students whose first response on the free-association task involved talking or texting.

	Sweden (N=171)	US (N=523)	Italy (N=616)	Japan (N=529)	Korea (N=162)
Talking	19%	17%	5%	3%	13%
Texting	22%	17%	41%	52%	54%

Table 4 Percent of first-word responses (on free-association task) involving talking or texting

Swedes, Americans, and Koreans mentioned talking most often (Sweden: 19%; US: 17%; Korea: 13%). As we saw in Table 1, students from these countries were also more likely than Italians or Japanese to engage in ≥ 11 voice calls a day (Sweden: 6%; US: 13%; Korea: 17%). Mention of texting functions on the free-association task was highest among Italians, (41%), Japanese, (52%), and Koreans (54%), which is mirrored in the rank ordering of reported frequency of ≥ 11 texts the previous day by the same groups (Italy: 40%; Japan: 52%; Korea: 81%).

Moving from free association to judgments concerning the one thing subjects liked most about their mobile phones, it became clear that texting (not talking) was judged particularly important. Table 5 summarizes the ‘like most’ and ‘like least’ responses involving talking and texting.

	Sweden (N=171)	US (N=521)*	Italy (N=611)*	Japan (N=529)**	Korea (N=161)*
Like most					
talking:	0%	0%	0%	0%	0%
texting:	12%	6%	8%	7%	4%
Like least					
talking:	0%	0%	0%	0%	0%
texting:	1%	3%	3%	5%	3%

* Invalid responses were eliminated, yielding slightly reduced subject pools.

** For the Japanese data, there were 525 valid responses for 'like least'.

Table 5 Percent of 'like most'/'like least' responses involving talking or texting

Essentially no one mentioned talking as what he or she liked most about mobile phones (with one isolated Japanese response). By contrast, between 4% (Korea) and 12% (Sweden) indicated texting. When subjects judged what they liked least about their mobile phones, again texting (but not talking) was on their minds. Essentially no one mentioned talking as what he or she liked least about mobile phones (with one Italian exception). Although the numbers of subjects explicitly complaining about texting was relatively small (between 1% and 5%), these concerns were common enough to lead us to ask whether subjects perceived texting to be both a favorite function and, at the same time, one that generated concern. We address this issue in the next section.

RESULTS: CONFLICTING ATTITUDES (RQ3)

Our third research question drew upon the 'like most' and 'like least' responses to gain a more nuanced sense of student attitudes towards mobile phones. Our five measures were: reachability, freedom vs. entrapment, effects on spoken and written communication, effects on personal

interaction, and attitudes towards phone functions. Some of these measures overlap conceptually. For example, some ‘like least’ responses constituted examples of both not wishing to be reached and entrapment (e.g., ‘feel obsessed with contacts from friends’).

Reachability

Reachability was coded into three categories: the subject’s ability to reach others (e.g., ‘To be able to call anyone I want anytime I feel the need’), the ability of others to contact the subject (e.g., ‘Can be reached no matter where I am’), and responses for which directionality of contact was not specified (e.g., ‘connectivity’). Table 6 summarizes total reachability responses to the question of what subjects liked most and liked least about their mobile phone.

	Sweden (N=171)	US (N=521)*	Italy (N=611)*	Japan (N=529)**	Korea (N=161)*
Like most:	88%	83%	69%	65%	76%
Like least:	57%	57%	52%	37%	72%

* Invalid responses were eliminated, yielding slightly reduced subject pools.

** For the Japanese data, there were 525 valid responses for ‘like least’.

Table 6 Percent of responses involving reachability as what ‘like most’ and ‘like least’ about mobile phones

Data regarding reachability present an interesting ambivalence. Between 65% (Japan) and 88% (Sweden) of all responses to the free-response question ‘What is the one thing you like most about having a mobile phone?’ concerned reachability. Yet between 37% (again, Japan) and 72% (Korea) of what subjects liked least about their mobiles also involved reachability. Many of their positive and negative comments referred to communication in general (e.g., positive: ‘constant access to communication in multiple forms’; negative: ‘everyone can communicate anytime and thus I feel *keitai* [mobile phones] are controlling us’). However, as we

shall see in the following discussion of freedom vs. entrapment, a number of responses (positive and negative) made explicit reference to text messaging.

Freedom vs. Entrapment

Our second category included notions of reachability but extended to encompass a broad range of other concepts, such as convenience, mobility, ability to contact others (and be contacted by others), alleviating boredom, obsession, alienation, control, loss of tranquility, loss of privacy, and stress. Table 7 presents frequencies of sample categories for ‘like most’ and ‘like least’ responses involving freedom (‘like most’) or entrapment (‘like least’).

	Sweden (N=171)	US (N=521)*	Italy (N=611)*	Japan (N=529)**	Korea (N=161)*
LIKE MOST (FREEDOM)					
convenience:	1%	9%	5%	12%	26%
mobility:	5%	9%	3%	5%	0%
contact					
I contact others:	18%	8%	9%	1%	1%
others contact me:	16%	6%	7%	0%	0%
directionality not specified	16%	17%	8%	0%	24%
LIKE LEAST (ENTRAPMENT)					
dependency:	7%	7%	10%	10%	30%
contact					
I contact others:	1%	0%	0%	0%	0%
others contact me:	40%	35%	35%	13%	33%
directionality not specified	3%	0%	0%	0%	0%

* Invalid responses were eliminated, yielding slightly reduced subject pools.

** For the Japanese data, there were 525 valid responses for ‘like least’.

Table 7 Sample percentages of ‘like most’/‘like least’ responses involving freedom/entrapment

While there was considerable variation across countries (perhaps cultural, perhaps an artifact of translation), both convenience and mobility were perceived by many subjects as favorite attributes of mobile phones. Substantial numbers of subjects from all countries – but especially Korea – indicated that what they liked least about mobile phones was dependency upon them. Korean responses were particularly interesting: While 26% of all ‘like most’ responses by Koreans referred to convenience, 30% of Korean ‘like least’ responses referred to dependency. Recall that Koreans were the heaviest users of both voice calls and text messaging (Table 1).

There are also conflicting attitudes revealed in the three sub-categories referring to contact (I contact others, others contact me, directionality of contact not specified). In the three Western countries, sizable numbers of subjects (8% - 18%) indicated that what they liked most about their mobile phone was being able to contact others. (Additionally, there were substantial numbers of subjects – especially from Korea – who liked contactability, but did not specify directionality.) Yet when asked to indicate what they liked least about their mobile phone, roughly one-third of all students (except in Japan) talked about others contacting them, suggesting ambivalent feelings about the communication potential of the device.

The freedom vs. entrapment category included a number of other dimensions (i.e., besides convenience, mobility, dependency, and contactability). Here is a sample of positive and negative responses that explicitly mentioned texting:

Positive (‘like most’)	Privacy:	‘texting so messages stay private’
	Efficiency:	‘to be able to communicate small things by sms, even when I would not be able to reach the other person in a different way’
	Alleviate boredom:	‘texting when i’m bored in class’

Negative (‘like least’)	Addiction:	‘addicted to text messaging’
	Control:	‘I feel controlled by my telephone service (it sends me sms messages, it looks for me)’
	Excessive use:	‘sick of <i>keitai</i> email communication now’ ‘that people send you useless messages you almost feel compelled to answer’ ‘my wrist and eyes hurt because of continuous texting’
	Loss of tranquility:	‘when you are nervous and you would like to be alone sometimes you are bombarded with sms messages’
	Lack of privacy:	‘someone can see my text messages’
	Stress:	‘people stress me with sms messages’

Effects on Spoken and Written Communication

A third way of evaluating attitudes towards mobile phones is to see which ‘like most’ and ‘like least’ comments referred to effects subjects perceived mobile phones were having on spoken or written communication. We restrict our examples here to responses specifically mentioning texting.

Effects on oral communication

The following are examples of the attitudes subjects expressed (responding to the ‘like most’ and ‘like least’ questions) that referred to oral communication:

Positive (‘like most’)	Texting removes need to talk
	‘text messaging – easier to keep in touch without actually having to talk’
Negative (‘like least’)	Texting allows for more careful language than speech
	‘I can be more careful about my language with <i>keitai</i> email’
Negative (‘like least’)	Prefer voice communication
	‘people texting instead of talking’ ‘texts allow others to get out of actually calling you’

- ‘guys sometimes text instead of [calling], which can be rude’
- ‘to talk less to friends because they use sms messages’
- Illusion of communication
 - ‘communication through *keitai* email [can] trick people’s minds as if they were engaged in real communication’
- Disrupts ongoing spoken interaction
 - ‘distract too many students in classroom...I hate my classmates for texting nonstop’
 - ‘while talking, some friends respond to their *keitai* mail. A manners issue’
- Misunderstandings
 - ‘one is easily misunderstood with messages’

While subjects noted some positive effects of texting with respect to speech (especially being able to communicate in situations where speech was problematic), the majority of comments appeared as responses to the ‘like least’ question. Japanese subjects were particularly concerned about manners issues, but complaints regarding social decorum were voiced by Americans as well.

Of particular interest was the comment (by a Japanese male) that texting on mobile phones did not constitute ‘real’ communication. A similar sentiment (regarding mobile phones more generally) was expressed by three Italian subjects (e.g., ‘it is replacing communication in the literal sense of the word’) and by two other Japanese (e.g., ‘in some cases, communication can lack substantial content’).

Issues with written communication

Several subjects commented on the positive aspects (‘like most’) of texting being a written medium, e.g.,

- Speed: ‘to be able to send messages in a quick manner’
- Conciseness: ‘to be able to communicate with friends via sms messages, few words and concise concepts’
- Written record: ‘can save past *keitai* email’

The comment about concision is reminiscent of our finding (Table 2) that many participants preferred texting over talking in order to keep the message short.

But there were also complaints ('like least'). An Italian female noted that 'writing sms messages makes me forget how to spell', and 9 Japanese students referred to difficulty inputting messages, given the complex system necessary for typing Japanese on a mobile phone, e.g.,

'too much of a pain in responding to *keitai* email'
 'compared with a computer, it's hard to type on *keitai*'
 'I cannot use certain *kanji* [Chinese characters]'

Recall that we noted earlier (Table 3) that students from all five countries (but especially Japan) reported that the effort involved in doing texting was an important reason for choosing to talk on their mobile phone instead.

Effects on Personal Interaction

Subjects commented on the positive and negative effects they felt mobile phones were having on personal interactions with friends and/or family. Again we limit our examples to responses explicitly mentioning texting:

Positive (‘like most’)	Conversation with friends/family ‘contact with friends more often thanks to text messages’ Gifting: ‘I like the surprise of getting text messages’
Negative (‘like least’)	Risk of rudeness/breaking friendship ‘people expect you to respond immediately to the messages, and if you don’t, [then] you are rude’ ‘it’s troublesome to send <i>keitai</i> email but I have to (otherwise people think I’m rude or won’t like me)’

Japanese subjects were again particularly troubled by the issue of manners. More than a dozen wrote about how *keitai* use (in general) disrupted the social order. (For analysis of the issue of mobile phone manners in Japan, see Baron and Hård af Segerstad in press.)

Attitudes towards Mobile Phone Functions

Finally, subjects commented on the range of functions available on their mobile phones. In response to the ‘like most’ question, many alluded to specific functions on their phones (e.g., cameras, television, internet access, games). In Italy and Japan (though not in Sweden, the US, or Korea), a number of students responded to the ‘like least’ question with complaints about functionality. Of the 37 Italian and Japanese negative responses concerning functionality, the majority (especially of Japanese) complained that there were too many functions on their phones or that the functions were too complicated to understand. For example:

‘multiple functions but most of which I don’t use’
 ‘The more functions we have, the more confusing it becomes’

While these responses don’t specifically refer to texting, they indicate that despite its usefulness, the instrument proves complicated for some people to operate.

DISCUSSION AND CONCLUDING REMARKS

In this study, we examined user attitudes towards mobile phones. Drawing upon data from Sweden, the US, Italy, Japan, and Korea, we observed a number of trends – some evident across populations, others perhaps culturally driven. Several trends suggested ambivalence among young adults regarding mobile phones. Some aspects of this ambivalence concerned the effects of mobile on spoken and written interpersonal communication. We consider each of these domains in turn, and close with a look to the future.

Shared Attitudes towards Mobile Phones

Text messaging is important in the eyes of contemporary university students. Even in the US, where pricing plans typically render voice calls ‘free’ (because hundreds of voice minutes are pre-paid), these young adults did more texting than talking. On the free-association task, words involving text messaging were more prevalent than words involving talking. When asked what they liked most – or least – about their mobile phones, a number mentioned texting, but essentially no one mentioned talking.

Subjects were also aware of the affordances of text messaging – positive and negative. Users (especially in the West) advocated texting over talking to keep control over the conversation (‘to keep the message short’). Yet students (especially in Japan) indicated that an important reason to talk was the effort involved in texting.

The data revealed ambivalence over the communicative function of phones, evidenced both in students’ general attitudes and in specific comments about text messaging. The aspect of mobile phones that subjects liked most was reachability. However, what they liked least was also reachability. When they specified the directionality of that reachability, the majority of subjects ‘liked most’ their ability to contact others and overwhelmingly ‘liked least’ that others could contact them. Reachability seems to extract a heavy toll upon users. A sizable number (especially in Korea) complained that they were dependent mobile phones, and addicted to or stressed by their phone, including by text messaging.

Another source of conflicting attitudes was the mobile phone’s range of available functions. While many subjects enthused about cameras, internet access, and the like, there was also discontent (especially in Japan) over the complexity of operating many of these functions.

Cultural Issues

Researchers engaged in cross-cultural studies of information and communication technologies (e.g., Haddon 2005; Livingstone 2003) caution against moving too hastily from cultural correlations to claims of cultural causation. Factors other than culture may be at play in explaining results, such as differential pricing structures, familiarity with prior technologies, or gender (recall that our sample was heavily female). At the same time, cultural correlations with attitudes bear serious examination. While we cannot undertake in-depth cultural analysis in the present study, we can point up several findings bearing further investigation.

In reporting that Japanese subjects engaged in far more text messaging than voice conversations, we noted cultural conventions in Japan that discourage use of public space for private conversation (including voice calls on mobile phones). We also observed that Japanese students were more likely than subjects elsewhere to indicate that what they ‘liked least’ about mobile phones was bad manners or disturbing the social order. Given the importance of politeness conventions in Japan, these findings are not surprising.

Less obvious is whether cultural explanations underlie Japanese responses involving reachability on the ‘like least’ question. While between 52% and 72% of subjects in the other countries disliked some aspect of reachability, only 37% of Japanese gave this response. More specifically, while 33% - 40% of subjects elsewhere reported that what they liked least was other people contacting them, only 13% of Japanese voiced this sentiment. Future research should examine whether social norms in Japan shape a stronger imperative to respond to interpersonal communication than in other countries, where individual choice might be a more dominant consideration.

Similarly, we observed several differences between response patterns in Western countries (Sweden, the US, Italy) and countries in the Far East (Japan, Korea). We have already

observed that complexity of input makes Japanese texting (and, to a lesser extent, Korean texting) more difficult than texting in alphabetic languages, probably explaining more agreement in Korea and especially Japan over the importance of talking ‘because texting takes too much effort’. Of more cultural relevance is the fact that Korean and especially Japanese subjects were less likely than Western counterparts to choose texting over talking ‘to keep the message short’. One possible explanation of the discrepancy is that Japanese and Koreans simply chose to text for other reasons. But it would be interesting to explore whether norms of social etiquette in Japan and Korea mitigate against controlling the conversation in ways more common in the West (Baron 2008b).

Implications for Writing

Responses to the open-ended questions about what subjects liked most and least about their mobile phones yielded some interesting observations regarding how subjects perceived the nature of mobile phone communication. While some comments were of a general nature (‘it is replacing communication in the literal sense of the term’), others singled out text messaging as compromising ‘real’ communication (‘communication through *keitai* mail [can] trick people’s minds as if they were engaged in real communication’). These comments raise the question of whether users themselves perceive text messaging to be equivalent to either face-to-face conversation or more conventional forms of writing.

A recent study by the Pew Internet & American Life Project (Lenhart et al. 2008) reported that many American teenagers did not judge forms of online and mobile communication such as email, IM, postings to social networking sites, and text messaging to be ‘real’ writing. The Pew study suggested that teens knew to distinguish between writing conventions acceptable

in personal communications (e.g., use of abbreviations, acronyms, emoticons) and language appropriate for academic assignments. However, as the amount of writing we produce is increasingly done through devices such as mobile phones, it remains to be seen if traditional writing norms will change as well.

Looking to the Future

Data for the present study were gathered before the rapid growth of smart phones (such as the iPhone). These newer phones make mobile internet use, for example, far more common in the US than when American data were collected in Spring 2008. Smart phones also simplify textual input by providing a virtual QWERTY keyboard. As technology evolves, we predict that what users see as the primary functions of their phones, and what they like and dislike about the devices, is likely to evolve.

What seems unlikely to change is the amount people are using their mobile phones – whether for texting, talking, or internet functions. That is, users will find it increasingly easy to be ‘always on’. From this study, we have seen that despite their enthusiasm for connectivity, such reachability commonly is counterbalanced by dislike for the consequences, including a feeling of entrapment. It remains to be seen how users will cope with this conundrum. As of now, the answer for some appears to be feelings of stress or anxiety. But another alternative is learning when to turn the device off. As mobile devices become increasingly ubiquitous, our greatest challenge may be figuring out how to achieve personal and social balance in our availability to others.

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