

**Mobile Networked Text Communication: The case of SMS and its
Influence on Social Interaction**

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Abstract

This chapter introduces a qualitative study of the use of mobile text messaging (SMS) and reflects on how SMS influences social interaction. It describes how this new communication technology is used to maintain social relations and how it generally assists users in their everyday activities. Three issues are highlighted: how users use SMS to overcome shyness, how they use it for micro-grooming and how users are able to control messages to their advantage. It is argued that SMS facilitates users in their everyday life through the ways it supports *awareness* and *accountability*. These characteristics make the communication channel a ‘social translucent’ technology, contributing to its popularity. It is suggested that simple information and communication technologies such as SMS can provide powerful tools in new designs of information and communication technologies.

Keywords

Social Impact of Technology, Case Study, User Behavior, Telecommunications Technology.

INTRODUCTION

Telephony is a communication technology that has changed our social practices in many ways, a change that has taken place over many decades (Fisher, 1992). The adoption of mobile telephony had in many ways relied upon the century long diffusion of fixed line telephony. Still, researchers have been intrigued by the changing behavior within many user groups that the mobile phone has brought about. Recent research in particular has looked at the behavioral changes as people

deal with being only 'a phone call away' from each other (Brown et al. 2002, Katz and Aakhus, 2002). One of the most unlikely successes has been text messaging or SMSⁱ (Short Message Service), which, even with a limit of 160 characters, has become a very common medium of electronic communication in many parts of the world, particularly Europe and many parts of Asia. Text messaging has received considerable attention with some researchers going so far as to argue that SMS – rather than voice calls – has been the major force in the adoption of mobile phones (Jenson, 2005). The mobile phone is not just acquired for keeping in touch with loved ones during the odd day away from home, but rather for the practicalities it solves on an everyday basis, from reminders to buy milk, to arranging a birthday party for a friend. Early research on SMS use suggested that its popularity, especially among teenagers, was due to the controlled cost that SMS provides (Grinter and Eldridge, 2001). However, later research tends to differ from this, emphasizing the efficiency of the asynchronous communication model (Jenson, 2005).

Moving beyond asking questions of why SMS has become popular, this chapter focuses on how text messages fit into users' everyday lives and existing social practices. The chapter explores in detail how SMS is used in a group of young adults to manage the mundane activities of their lives by focusing on how text messages fit into the lives of users as well as how it supports existing social practices and creates new ones. Instead of asking why users use 'tedious' texting rather than 'swift' phone calls (for example Grinter and Eldridge, 2001 and Ito and Okabe, 2005), we approach the medium with the view that mobile phones are now being bought and used as much for text messaging as for voice calls, especially in the Nordic countries, where our study took place. This study provides support of how this seemingly simple communication medium is powerful enough to add new structures to the users' lives,

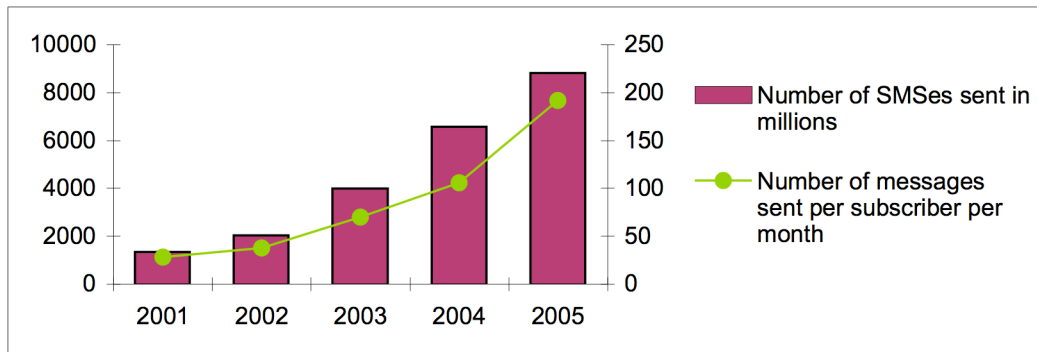
without dominating their daily life. With the changing structures in users' lives, issues of design arise. Underestimating the simplicity of design within Communication Technologies is a threat to the potential creativity with which the user can shape the technology. Implications are therefore emphasized in relation to the design and adoption of information and communication technologies.

BACKGROUND AND RELATED RESEARCH

SMS was originally implemented into the GSM standard for mobile phone communication, in the late 1980s as a replacement for pagers (Kopomaa, 2005). It was envisioned as an extra tool that business people would use to send messages with on the rare occasion, similar to how the pager was used to send a single phone number. The reasoning behind this was partly that messages were, and generally still are, limited to 160 characters and partly that the mobile phone manufacturers and carriers could not imagine anyone wanting to type messages with a twelve button keypad. However, after a slow start, SMS took off with incredible rates in unison with the teleoperators' subsidizing of handsets, making mobile telephones affordable for many people in the late 1990s. In Finland, one of the earliest countries to adopt SMS, it was even offered at no cost, because of competition among teleoperators in 1997 (Kopomaa, 2005). Figure 1 shows the increasing number of text messages sent in Denmark in the years before our study. Teenagers in particular, represented a surprising group for adoption of mobile telephony and, as will be elaborated later, much previous research has focused on this user group. A number of researchers have argued that SMS was the main reasons for teenagers' high adoption of mobile phones, rather than the possibility for mobile voice calls (Ling, 2004). Studies have looked into why teenagers have been so eager to use both mobile phones (Ling,

2004) and text messaging in Europe and Japan (Grinter and Eldridge, 2001; Ito and Okabe, 2005) as well as how they use this mobile communication technology.

Figure 1. The development of SMS traffic in relation to the number of subscription in Denmark between 2001 and 2005.



Studies of Mobile Phones and SMS

Previous studies of SMS use have often been part of broader studies into the use of mobile telephony, with SMS considered as an alternative to voice communication, rather than as a medium in its own right. However, several recent studies have looked specifically at the use of 'text-messaging'. The book 'The Inside Text' (Harper et al., 2005) collects a number of studies of SMS use as well as design issues in relation to digital text communication in a broader sense. Several studies of mobile phone use (including SMS) and only SMS use concentrate their observations on teenagers. Grinter and Eldridge (2001) for example were among first to explore the use of text messaging among teenagers, investigating why they have been so eager in their adoption of mobile phones and in particular text messaging. They describe how text messaging helps teenagers retain their privacy in a parent-controlled life and how they maintain social relations outside school. Alternatively, Taylor and Harper (2002) focus on the significance teenagers give to text messages themselves, comparing their communication to 'gift-giving' practices. Both studies emphasize the 'leisure and fun' aspects of the medium amongst their teenage user groups, although Ling (2004) later

emphasizes how (virtually) all age groups in Norway use text messages for ‘micro-coordination’ and organizational practicalities. Ling’s work is important in how it connects text messaging to broader social practices (such as arranging to meet), yet there is little discussion of the broader social contexts where text messaging takes place, such as public places.

A common finding in the literature is that text messaging increases ‘ad-hoc’ coordination (Brown, 2002; Jenson, 2005; Ling, 2004). Ling calls this micro-coordination and describes how messages are often relied upon in situations of coordinating social life, not only for teenagers (Ling, 2004). Another well-cited finding is how text messaging is a tool for users to avoid surveillance or control over their relationships (particularly parental for teenagers) (Elwood-Clayton, 2005; Grinter and Eldridge, 2001; Ito and Okabe, 2005). Since the participants in our study were not under any parental control this issue was not a factor. However, expectations from others were found to manifest themselves within other parts of their social life, making this an issue worth exploring. Indeed, one neglected aspect of the earlier literature is how less direct social regulations such as social relationship principles also influence the use of SMS.

In relation to other communication technologies SMS is a ‘lean’ medium, because messages are limited in length and as text only; lean communication medium is here defined as single channel, compared to rich communication channels that contain for example both image and audio, or are synchronous. The limitations of texting make it difficult to compare and relate to multi-channel systems such as video conferencing, or just synchronous voice communication. It appears that it would be difficult for such lean medium to support socially important and profound interaction of *social translucence*. Social translucence in a communication system is

defined as support for coherent behavior by for example making participants' activities visible and supporting communication effortlessly. Erickson and Kellogg (2000) describe the advantages of a socially translucent system in that it provides the user with salient characteristics that support coherent behavior and social activities. They mention three principles for obtaining social translucence: visibility, awareness and accountability. A medium needs to afford visibility in that the users can see the activities of each other; it needs to provide users with an awareness of the other people's presence and finally, the medium needs to make the users accountable for their interactions. Interestingly, two of these principles are in fact applicable to the SMS medium and thereby contribute to the medium's usefulness, in particular in socially situations. Although the users' current activities are not visible to each other, as we will show in this study, messaging provides awareness among users and because the communication is instantly saved on the phone, accountability is thus an important factor for users. As will be elaborated on through the present case study, SMS therefore, to a great extent, provides social translucence.

In our study we aimed to look at the social management and general practices that young adults use SMS for in their everyday life. Young adults between 20 and 35 are an interesting group to study for two reasons: First, they have different life styles than teenagers, who live with their parents or at a dormitory in a frequently semi-controlled environment; second, their monetary concerns are often less than those of teenagers who most often depend on pocket money and after school jobs. Few studies of SMS include other age groups, noticeably because text messaging is not used much among people older than their thirties (this is rapidly changing, though as (Ling, 2004) highlights). Moreover, studies that do include users in their early twenties often also include teenagers and thereby study a group with mixed concerns.

Examples include socio-linguistic analysis of SMS messages among 12 to 25 year olds (Hård af Segerstad, 2005) and a cultural comparison between French and Japanese users where the French participants were between 15 and 28 years old (Riviere and Licoppe, 2005). The teenage culture influenced by text messaging is important to explore, since new practices have been discovered. Still, many of these practices, among other unexplored ones, are to be found among young adults as well. These are some of the issues that will be presented here, based on the qualitative study of text message use among young adults.

TEXT MESSAGING IN THE LIVES OF YOUNG ADULTS

Methods

The first part of this study was carried out over two weeks; 21 participants kept a journal every evening, describing messages received and sent messages that day. In addition the journal asked participants to describe their location when messages were sent/received and what the motivation for initiating messaging had been. Most of the participants had mobile phones that saved both outgoing and incoming messages; this enabled them to remember the messages for the diary in the evening, but a few participants had to rely on memory in regard to the outgoing messages. After the two weeks we conducted more in-depth interviews with seven of the participants, having them elaborate on motivations and specifics of their SMS habits. These were selected from high-level users among the 21 participants and the aim was to interview a diverse subset of the group. All seven who were asked agreed to be interviewed.

The study took place in Denmark, where the rate of mobile phones was 85 phones per 100 inhabitants, at the time of the study (Telecom Statistics, 2003). The participants were young adults, ranging from 21 to 36 years of age. Participants were

recruited by way of email lists and personal contacts (however, none of the participants were personally known to the author prior to the study), the main criteria being that the participants had a mobile phone.

We aimed for a diverse set of participants, however, not a representative set; naturally this limits generalization among SMS users, but purposeful selection enables insight into information rich cases, desirable in a qualitative study such as this. None of the participants had owned a mobile phone for less than two years. The participants were a mix of students (undergraduate and graduate) and young professionals, with the students being mainly graduate students studying for their Masters degree in subjects such as information science and political science and the professionals working in jobs as varied as painter, waiter and forester. A characteristic that we aimed for in recruiting participants was having an ‘adult lifestyle’; this included having their own income and living either by themselves or with a partner or room-mate. By studying independent adults, limitations that apply to teenage groups were minimized and the study would provide insights into a group with a more consistent life style.

Table 1. Participant demographics

Participants	Diary study	Interviews
Number (male/female)	21 (9/12)	7 (3/4)
Age range	21-36	21-32
Students/non-students	14/8	4/3
Living with partner or room mate/living alone	9/12	3/4

GENERAL TRENDS OF MOBILE TEXT-COMMUNICATION

While the participant's diaries gave a good, if basic, impression of how SMS fits into their everyday life, the interviews provided a better understanding of motives for use. SMS was generally used for the coordination and upkeep of social life, with some use of texting for work coordination. The more messages participants wrote per day, the more diverse uses text message were put to; in other words, when the participants used many text messages, they communicated with more different people and relationships such as work relations and family. All the participants used SMS on an everyday basis. The average was four messages sent and four received per day; however participant's level of use differed considerably. Five participants averaged only about three and a half sent and received messages per day, two participants sent and received on average nineteen and twenty messages per day. Most participants sent as many messages as they received except for a few outliers; one woman for example sent on average nine and received only four messages per day.

Relationships

The participants were asked to record who they sent and received messages from according to relationship. The graph in Figure 2 identifies the average number of messages per

day that participants reported sending and receiving, according to

whether they reported having a partner or not. As shown, participants mostly communicated with friends or acquaintances and significant others. Only six of the twenty-one participants texted with members of their family during the two weeks, most often siblings and in one case the participant's mother. However, all of the participants who had a significant other, communicated with him/her almost every day.

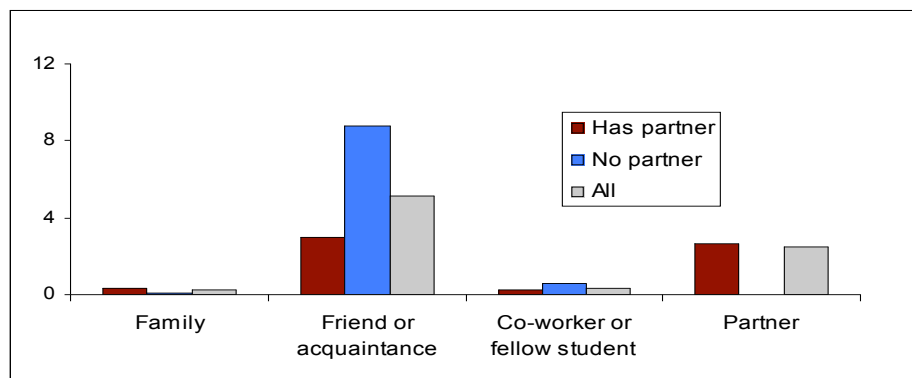


Figure 2: the types of relationships SMS supported for our participants

The interviews supplied a more nuanced description of the participants' core 'SMS group'. For one female participant, aged 25, the group was very broad; she was the head of a political organization and often coordinated meetings over SMS. She received almost three times as many text messages as she sent, because of this coordination with other members. She said that SMS enabled her to control her communication and that she could not imagine having to coordinate this over voice communication or email. A male participant aged 21, on the other hand, used SMS to communicate mainly with friends of both genders to coordinate evening arrangements and to meet up with friends in a casual way. Another participant used SMS on several occasions to get a hold of his manager when the manager was out of the office or away on an international business trip.

Messaging Purpose

Text messaging was used for both social organization and professional communication. A very general taxonomy of message topics (including both sent and received messages) was proposed in the diary and participants were asked to characterize their messages as either characterizing the messages as either coordination and practical information, socially based or other. During analysis this characterization was checked from the content of the messages. This showed that 55% of the messages were regarding coordination and practical information. Examples of this type of message include organization of future meetings or real-time meetings (“We are at the Mexi-Bar”) and a participant coordinating gift buying with her sister. This finding is similar to what other studies report; Ling for example found that many users messages mainly regard micro-coordination (Ling, 2004). 33% of the messages were socially based and included goodnight messages and non-essential politeness (“Have a good vacation, see you soon”) and 12% were uncharacterized according to the two above categories.

Similarly to other communication technologies, the users’ social context influences how SMS is used. But where the context of stationary media, such as for example PC based email or instant messaging, is more predictable, the mobile text messaging context is more varied. The mobile aspect in this regard facilitates a transformation in users’ behavior and attitude. One way this change was illustrated in the case study was through the messages that, according to the participants, would never have been passed on by other means, if SMS had not been available. One interviewee, a 25-year old graduate student, said that she often sent little ‘I will be a bit late’ messages, in situations where she would never have called. SMS was discrete and practical for such purpose, which was confirmed by the majority of the participants. SMS was

used to manage the participants' busy life style in relation to both work/study and social obligations.

SOCIAL CONTEXT OF SMS

In other studies the use of SMS has been found to contribute to more loose social arrangements in the social lives of users (Ling, 2004; Ito and Okabe, 2005). We found that loose social arrangements have extensive consequences to the participants' behavior and therefore focus the analysis on users social life and everyday practice as well. Instead of looking at SMS messages in isolation, we find it essential to describe the participants' SMS messages in relation to their social practices.

SMS supports ordinary and existing social practices in new ways. For our participants, SMS was valuable not because it was hugely different from other existing communication technologies such as voice over phone or email, but rather for how it supported more *subtlety*, *spontaneity* and *mobility* in their existing communication. We found three characteristics of their lifestyle that was important to the SMS users, each one relating closely to how they perceive that they have changed since SMS became available to them. Many of the participants used SMS to overcome shyness, most of them practiced social grooming with messages that would not have taken place without SMS, finally, the participants used SMS to control their communication with others. Each of these parts is elaborated below.

Overcoming Shyness

Shyness is part of many people's personality and our participants were not much different. Many of them were shy about talking in public on their mobile phone and some expressed reservations about calling people they were not very close to or

perhaps wanted to become more close to. SMS provided a simple and unobtrusive method of distance communication, which enabled them to keep up spontaneity as well as frequent contact with others.

Many of our participants commented that they would send an SMS rather than calling to avoid talking in public. As one female interviewee explains: “I don’t like to talk on the phone when I am outside, I actually don’t like to talk on the phone at all. I just think SMS is so much easier”. Although voice communication in public *was* used by the participants according to their diary and the interviews, several of our interview participants said that they tried to avoid this as much as possible by using SMS. In crowded public spaces a spoken voice call made at least one side of the communication publicly available to others and our participants sometimes felt they were intruding on their surroundings’ privacy by for example talking on the bus or on the train. SMS messages, however, are essentially private. SMS thus offered advantages by supporting communication without attracting attention to the individual.

Another aspect of shyness concerned the actual communication content. In a number of cases, the participant found it easier to communicate invitations to acquaintances and friends by SMS rather than by phone. For example, one male participant aged 21 said that he would have found it difficult to casually call up a friend, to ask if she wanted to come along to a club that night, but asking her over SMS was easy. The casualness of SMS corresponds well with the casualness of asking someone for an informal gathering among friends. The participant admitted in the latter part of the interview that he did not like phoning people at all and that he would even not see some of his friends as much if he was not able to SMS them on a regular basis. He explains:

“This girl, Linda, I would never call her, but we often SMS about where we are meeting, say, Saturday night, with the others. Sometime we also just chat, like, during the course of the day. But I don’t think I would call her.”

SMS enabled this participant to contact a friend where it would have been socially awkward for him to call her. In addition to other studies where SMS is found to assist the development of relationships (e.g. Elwood-Clayton, 2005; Grinter and Eldridge, 2003), SMS supports communication without the commitment and immediate reply required in a telephone call. One can send a one line SMS, or reply at leisure, without having to commit to a spoken conversation that can potentially be awkward.

In the above cases SMS helped users who were shy (although most of our participants confessed to being shy in some way or another), however, in addition SMS allowed users to carefully manage their interactions turn by turn. This gave the users a sense of control when communicating and they would have time to think before answering. The control that the asynchronous communication provided was essentially a ‘remedy’ for the shyness expressed in relation to certain people.

The power of SMS is clearly illustrated in how SMS enables users to keep in contact with people with whom they would not keep as close contact with otherwise. However, the participants may not be aware what they would do or have done in the past without SMS. Many studies have shown an increasing level of ‘ad-hoc’ arrangements with SMS due to its commonality and spread (Ling, 2004; Riviera and Licoppe, 2005), but no studies point to people being more social because of SMS. This was confirmed by our own study. One of the participants in the study even reflects on whether she actually *does* see her friends more often and has more ‘spur of the moment’ meetings than she would have had without her mobile phone. First the participant says that she feels that SMS gives her the possibility to be more

spontaneous, but then she answers the questions whether she *is* more spontaneous in regards to social activities:

“Hmmm, I don’t know. I don’t know if I would have called before [having the possibility to SMS]. I think we are [more spontaneous], but I am not sure if it is always possible, because people actually do a lot of things, so it is often difficult to get it coordinated. Even if I have an hour where I can drink a cup of coffee, it is not always that my girlfriends can do that [at the same time]. So I don’t know if it is actually happening that much. I think it stays with the agreement of ‘lets SMS each other when we know we have ehm... some time’. And then time passes...”

Distinguishing between the factors that influences users’ motivation to use SMS and the consequences of it is important in this case. Where the reasons for using SMS might be to control the communication better (and thereby overcome shyness), the consequences for users’ social life is not that the user socializes with more or with different people, but merely the fact that they *experience* they have a more casual way of meeting up with others. By using SMS, they find that the mundane communication in their everyday life is more uncomplicated and less intrusive.

Micro-Grooming

An important finding was that SMS was used to support ‘micro-grooming’. 33% of the messages in the diary were characterized as ‘social up-keeping’ messages, messages that served no purpose in terms of planning or information aim, but merely were aimed at keeping up socially. Ling describes these messages as a form of social grooming (2004). For example, the diary data contained messages such as ‘thank you for tonight’ and a participant wishing a friend a good holiday. Because SMS is very ‘affordable’ (both money-wise and effort-wise), our participants emphasized that these social maintenance messages would not have been expressed if they could not be sent via SMS. The ‘smallness’ of SMS was a key aspect of the communication. In

this way these messages were more a form of micro-grooming – a wink or a small note, rather than the engaged level of interaction required by a call.

One example of this micro-grooming was a male interviewee who sent a message asking how his friend did at an exam. He explained that this was not something he would have called his friend about, but because he knew the friend had just had an important exam, he sent the SMS as part of ‘proper social behavior’. Another participant described in his diary how he and his friends competed to come up with the funniest movie quotes during the day:

“It is wonderful to have contact to a friend, also even if it is just gossip! It shows that they/I, during the course of the day, have thought about each other and done something about it. I got some laughs and so did my friends!”

Another example was a female participant, age 25, who sent a message to a friend living abroad and wished her a good holiday. She described that she would not have called her up or emailed her if SMS had not been available, but the possibility of SMS made her send an ‘extra message’ in addition to the conversation they had had three days ago. She found the message to increase the closeness to her friend since they could communicate in an inexpensive and simple way.

These messages added to users’ everyday lives and illustrate how people find it important and pleasant to stay in contact with both close friends and peripheral friends with ‘micro-grooming’ messages. They are part of common politeness and have seemingly grown out of the SMS technology. A comparable behavior is one of ‘giving regards’ to someone else; with SMS this is being done directly rather than through someone else. It can lead to an awareness of other people’s presence but also easy disappointment when the users begin to expect these messages. Like other

new communication media, getting used to it being part of daily life, SMS is still in its facilitation phase, meaning different things to different people.

Controlling the Communication

Participants' motivations for using SMS may seem straightforward: participants themselves emphasized the simplicity, discreteness and asynchronous aspects of using SMS. However, looking closer at our interviews an additional factor emerged: The concern that SMS senders gave to how their messages would be received, and the situation the receiver was in when they received the message. This concern in return, resulted in meticulous composing of messages.

SMS allowed users to request a different level of attention than that of a phone call. This different level could be used to change the *meaning* of a call – e.g. from a call asking why someone is late to a message notifying the recipient where you are. One female participant, for example, describes a message in her diary:

[The message was regarding] where exactly we had arranged to meet. We were actually standing at two different entrances [to the theater]. I SMSed because I didn't want to call in case she was just a bit late. ... It was just to say where she could find me, without seeming too impatient.

This participant sent a message that from her point of view was a question asking where the other person was, but in the form of a message about where she herself was. This allowed her to avoid appearing impatient. In composing messages users gave considerable thought to how they would be received, and this often made SMS the preferred media for situations in which important messages needed to get across.

Another participant described texting her flat-mate, telling her that she was not coming home that night. She explained in her diary that she used SMS because it seemed casual and it would have been 'silly to call'. She thereby controlled how her

friend received the information by choosing SMS rather than a voice call. While SMS are used for fun and non-essential information, such as indicated by for example Grinter and Eldridge (2001), they are also incredibly valuable in how they support this subtlety of communication and respect for social relations.

One of the more cited complications with mobile telephony is the constant availability that users feel they have to live up to, especially in the initial phases of getting accustomed to mobile phones (Brown, 2002; Gant and Kiesler, 2002). SMS, for our participants in contrast, helped adjusting the need for availability. By not having to answer a ringing phone right away as the case with voice communication, the participants were able to manage their communication in a controlled way. Although efficiency was the most cited reason for this need to control availability, the desire *not* to talk with a specific person was also important; another participant explained that she had sent an SMS to her mother because she just “couldn’t handle the talking”. In other situations, knowledge of the receiver’s situation influences the choice for medium, one participant, for example, knew that her friend was in a meeting and therefore felt an SMS was more appropriate. She did not address the possibility to postpone the communication, which shows that constant availability is often taken for granted.

Returning to the three criteria for social translucence: accountability, awareness and visibility, these characteristics are relevant in relation to the controlling that SMS encourages. First of all, users put such great trust in the messages that they hold each other accountable for receiving messages. Although some participants expressed that there were several people they could not use SMS to communicate with (most often because the recipient’s lack of texting skills, less often because their lack of a mobile phone), the ones they did SMS with, were trusted to always receive and answer

messages. It is a stored medium, where both sender and recipient can access messages later, thereby giving the medium more weight and accountability. In terms of awareness, SMS provides users with, if not a direct awareness, then a perceived awareness of always being close to one another. This is naturally tied closely to the mobile phone as such, where the fact it is mobile is more important than the fact it is limited to text communication. However, the way SMS is used to keep in touch with little micro-grooming messages supports the awareness factor to a great extent. The messages are often sent solely to make the recipient aware that the sender is thinking of him/her. Finally the notion of visibility is blatantly lacking. The sender of an SMS has no idea of the context of the recipient and the mobile factor means that they could be in any odd situation. However, this also applies to voice phone calls and we therefore agree that SMS in a sense allows for this lack of visibility by being discrete. When the users are not sure what the context the person is in, they send a message rather than risk a phone call that would be left unanswered. The SMS medium is therefore a good example of a social translucent system.

MOBILE TEXT COMMUNICATION AS A NEW TYPE OF COMMUNICATION

As described above, SMS communication not only adds new behavior to the users' social lifestyle and assists in many mundane everyday social practices, it also functions as a social medium for general up-keeping among friends and sometimes colleagues. It is argued here that SMS constitutes a new type of communication which is already an important and integrated part of the lives of young adults. Although the design and implementation of SMS were not intended for this massive use, it is important to consider the next design directions that these types of communication technologies might take. The possibility to expand text messaging

with pictures and even audio or video clips has not missed the attention of mobile phone providers in Europe and most mobile phones released today offer Multimedia Services (MMS) alongside SMS capabilities. These have, however, not proven as popular as plain text messages for a multitude of reasons (such as price, complicated functionality and lack of interest, reasons outside the scope of this chapter) and the consequence is that SMS use is still increasing rapidly around the world. As described in the introduction and illustrated throughout this chapter, SMS is a powerful yet simple medium that affords many types of socially based communication.

Implications for future Information and Communication Technologies

Designing information and computing technologies (ICT) requires insight into users' everyday practices with communication and where new technologies might spur new practices. It is not necessarily from rigid design considerations that this emerges, as the example of SMS shows. Had the mobile phone manufacturers and service providers been able to predict the popularity of mobile text messaging, they would have focused both design and advertising on SMS much earlier than they did. Handsets with full keyboards would have been available and promoted earlier and advertisement would have focused on pricing schemes for texting rather than voice telephony as happened in the middle and late nineties when mobile telephony took off. Because SMS has been shown to alter users' way of communicating and plan social activities, it is imperative to recognize that designers and researchers should not underestimate the power of simplicity in communication technologies. Video conferencing may seem rich and empowering in many situations because more information is available, through both visual means as well as audio, but the complexity in interpreting more than one channel (audio and video) often results in users rejecting it (Erickson and Kellogg, 2000). This is important to remember when

mobile video-phones become more common. With a single channel communication medium, the limitations are used to the users' advantage such as shown here. Design and research should therefore embrace both rich and lean types of communication but in particular the dynamics that make them work for users. For example text messages can be defined easily by what they do not have, such as fast text entry, long message length, tone of voice and quick interaction. But the feature of mobility weighs much more than any of the shortcomings of the medium. Therefore it is important not simply to count the features of ICT's but rather weigh them in relation to each other.

SMS is just one example of how very simple networked communication can support users' everyday practices and social life. Other text communication such as instant messaging is another example of a communication channel that adds to the range of communication possibilities in many people's life. The synchronicity of this medium makes fluent conversations possible, which is a major difference compared to the message exchange with SMS. The advantage is a more smooth conversation, but the disadvantage in comparison to SMS is that immediate replies are required. Consequently, asynchronicity was one of the issues the participants highlighted as a major benefit of SMS. All in all, the two communication media are not directly comparable in their use, but they both function as good examples of essential communication springing from simple media.

The last issue to emphasize in relation to communication technology design is therefore not to misjudge the creativity of the user. If designers assume that limited possibilities for rich communication will yield a limited amount of communication, the creativity of the user is underestimated. Users accept a technology if it supports a

social or practical need and corresponds to their present lifestyle. They show to be explorative and inventive in their way of using something as simple as texting.

CONCLUSION AND FUTURE DIRECTIONS

Together with the mobile phone, SMS has been one of the more distinct innovations of ICTs in the past century. Not only was it shown to alter users' behavior, SMS also works as an integrated part of users' social life with few disadvantages in regards to their increased availability, which occurs with mobile phones. Although many proclaim that text messages facilitate increasing spontaneity in the lives of users, they are still not shown to in fact improve social settings such as increasing of spontaneous meetings. Without directly comparing their life to before the participants used SMS (which to the author's knowledge no studies do presently), the participants were likely correct when asserting that spontaneity is still merely a feeling and not actual behavior. Still, the perceived value that stems from the use of text messaging should not be disregarded. The study presented here has shown that SMS is used to both build and maintain important social relationships and by doing that, adding value to the lives of the participants.

As described in the introduction, the SMS medium provides both awareness and accountability for users. Users feel that they have a sense of awareness of their friends and acquaintances when SMS is available to them. The expectations that they are only a text message away, as well as the many 'micro-grooming' messages create a sense of awareness. Users are held accountable for their communication, since they know that the message was sent to a device that the receiver carries with him/her almost everywhere; the SMS medium is mutually agreed upon to be a legitimate communication channel. The channel has in fact many aspects of being socially translucent. Even the concept of visibility was found to be relevant to the users; by

sending text messages to each other and being in constant touch, the users often know where their friends are and what they are doing. In this sense the medium also supports visibility, if not completely, then at least partly.

This chapter has described three different social contexts and uses of SMS and argued why they are important in relation to future design of ICTs. The controlling of shyness that users use SMS for informs about the advantages of a limited media such of short text. With limitations, the user does not have to excuse their brevity or find reasons *not* to use the potentially rich, audio or multi-channel medium to its limit; they are limited by way of the technology. As illustrated by the findings, users do not necessarily want a rich communication medium to interact through on a daily basis. The exposure of private communication in the public sphere was to be avoided as much as possible by not talking on the phone but instead use silent text messaging.

Second, the study pointed to the concept of micro-grooming, a politeness focused type of communication that was part of the daily value that participants contributed to their use of SMS. These messages are not seen as essential for daily activities, but as essential for maintenance of social relationships. Where users used the simplicity of text for simple but meaningful messages, it is important to realize that the power of the communication medium lies not only in its simplicity but also in its ubiquity. The mobile phone is carried everywhere and the sender can be fairly certain that the receiver will get the message within short time. The chance to wish an acquaintance good luck with an exam is never missed except when the exam is over, so the greater time span that users have to wish good luck increases the chance that they will in fact do so by SMS.

Finally, we pointed to the controlling of the communication that the simplicity of SMS affords. Users can compose the messages concisely without worrying about 'accidentally' saying too much or saying the wrong thing, which they are concerned they might do in a voice conversation. They can phrase their messages to suit the situation and thereby control it more than in a synchronous conversation where speed is a factor.

In sum, SMS has shown itself to be a powerful communication technology, not only because of its mobility and simplicity but also because of the value users put into the messages and the importance they attribute to this type of communication. The design considerations that arise from these findings are closely connected with the request for simple communication. ICTs might have much potential in relation to synchronous or video based types of communication, but smaller more mobile devices become more powerful in social everyday settings, despite their communicative limitations.

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ⁱ SMS will throughout this chapter be used to describe text messaging on mobile phones; this is to distinguish between that text messages over computers (instant messaging) and instant messaging services (such as AIM) available through some phones in for example the US.