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Mobiles everywhere

Youth, the mobile phone, and changes
in everyday practice

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Abstract

This article explores how young people's everyday patterns of social communication are affected by the increased use of mobile phones. We discuss three areas in which there are potential implications: (i) contact patterns and face-to-face interaction; (ii) other forms of spatial mobility; and (iii) individual planning and use of time. Empirically, we focus on change and rely on a two-wave panel study of 40 young persons living in Göteborg, Sweden. Data were collected through time-use diaries and in-depth interviews. The results show that young people's total interactions with their social environment increase as the mobile promotes a flexible lifestyle of instant exchange and constant updates. Thresholds — regarding space, time and content — for communicative action are reduced. A more impulsive practice of decision-making evolves and people become more careless about time-keeping. With the reduction in the constraints of time and space, the instant access of the mobile becomes difficult to refuse, and perceived dependency on mobiles increases.

Keywords

everyday life, mobile phone, young people, social communication, use of time, contacts, information and communication technologies, Sweden

Since the beginning of the 1990s, young people's access to different and convergent forms of information and communication technologies (ICT) — computers, the Internet, mobile phones — has quickly become widespread in Sweden just as in most other countries. There has been an enormous increase in the technical capability for providing an individual, who is at a distance from other people and activities, with instant access to anybody, anywhere, anytime. The use of the mobile phone has added a new dimension of virtual mobility to a continuing trend for geographically extended, faster, and more personalized social interaction. This has prompted much theoretical speculation over the consequences for everyday life in terms of the construction of space, place, movement and time, in an increasingly informational and networked society (for a general discussion, see Adams, 2005; Castells, 2001; Graham, 2000; Green, 2002; Sheller and Urry, 2006). However, as argued by several authors (for example, Haddon, 2004; Haythornthwaite and Wellman, 2002; Ling, 2004) there is a need for linking such theoretical propositions and abstract statements to the empirically explicit social practices through which time and space are framed when ICT devices and services are commonly adopted and used. In this article we will, therefore, focus on the emerging implications of mobile phones in shaping the everyday lives of young people.

ICT in general, and mobile phones in particular, have become technologies of youth. In Sweden, in 2003, 98 per cent of all young people aged 15–24 years had access to a mobile phone, while 86 per cent had a computer and 76 per cent had access to the Internet — half of them via broadband — at home (Frändberg et al., 2005). The level of mobile phone ownership in Sweden and the other Nordic countries ranks among the highest in the world (Ling, 2004). Young people are among the major consumers of mobile phone technology, and are often considered to be forerunners in its adoption and evolution. They were among the first to 'domesticate' mobile applications such as text messages (using short message service, or SMS) as means for social communication (Oksman and Turtiainen, 2004). Subsequently, the mobile phone industry expects the introduction of new designs and applications such as mobile Internet, camera-phones, videophones, and built-in mp3 players and radios to be determined by the preferences of young people.

A large portion of mobile phone-use involves rather *functional*, or practical, practices (Ling and Yttri, 2002). Young people use their mobiles for voice calls and text messages as key tools for organizing their daily meetings and activities. Mobile phones are also employed for safety management and the mediation of perceived risks of being outdoors in public spaces (Pain et al., 2005). However, the mobile is also used for purposes other than purely practical ones. Rich Ling (2004) emphasizes the compelling *symbolic* value of the mobile phone in reflecting the identity and style of a young person. Owning the 'right' brand of mobile, having a full address book, and receiving continuous messages — all demonstrate how important, well-off and trendy you are. Text messages are often *expressive* and serve as 'gifts' in which the actual content is secondary to the role of confirming roles, relationships and support (Livingstone and Bovill, 2001). However, young people are not a homogeneous group — not even in the case of mobile phone usage. For example, young women

send text messages much more frequently than young men do (Hjorthol et al., 2005; Kasesniemi and Rautiainen, 2002). Women also send longer and more complex messages expressing more emotions (Ling, 2004).

Despite these and other differences it is no overstatement that the mobile has been taken for granted by young people for quite a few years. It is, therefore, reasonable to believe that this group is most suitable for the study of the lasting consequences of mobile phone-use for everyday life: the formation of new habits and contact patterns, the evolution of the way people use time and place for various activities, and the effects of mobile phone-use on other means of communication. Though the period of youth is in many ways a period of specific needs and demands concerning education, leisure activities, friends and social networks, it has also been claimed that the values, routines and contacts established during these years tend to remain stable when a cohort gets older (Inglehart, 1997; Inglehart and Welzel, 2005; Robinson and Godbey, 1997).

With a few exceptions, most studies concerning the actual use and meaning of the mobile have concentrated on specific sub-groups of users; young people's actions in particular situations, locations, and interactions — for instance, texting to friends. Such focused approaches are of course legitimate in order to gain insight into the detailed use and shaping of technology, but they run the risk of exaggerating the total impact and role of a smart technology that is most likely integrated into people's everyday practices in many varied and complex ways (Valentine and Holloway, 2002). The need for and use of a mobile should also be examined in relation to other daily activities, not least physical transport, and other means of communication. During the years in which the mobile has become common, new means of Internet-based communication have also been introduced — for example, email, instant messaging and chatrooms — creating opportunities for socio-spatial interaction that are both competing and complementary (Thulin, 2004; Thulin and Vilhelmson, 2005, 2006).

This article places the use of mobile phones in the broader contexts and dynamics of daily life and communication. Our research framework is an integrated one, emphasizing social relations, contact and activity patterns, and everyday contexts, when studying the relationships between information and communication technologies on the one hand, and man and society on the other (as argued by for example, Bakardjieva and Smith, 2001; Haddon, 2004; Lie and Sørensen, 1996; Thulin, 2004; Haythornthwaite and Wellman, 2002). Thus the concept of everyday life here denotes a stable pattern of daily activities — the people an individual interacts with, the activities he or she spends time on, and where that time is spent — that have turned into habits and routines which could be affected by mobile technology. Empirical research on the acceptance, use and adaptation of technology will play an important role in advancing understanding of the wider, structural and long-term outcomes for society.

The chief aim of this article is to explore how young people's everyday patterns of social communication and contacts are affected by the increased use of mobile phones. Empirically, we rely on an intensive longitudinal study of a group of Swedish urban youth. On two occasions — in 2000 when he/she was 18 years old, and two years later when he/she was 20 — each person used a time diary to report his or her daily use of time, place and ICT over one week. These self-reports were followed by in-depth interviews.

In the next section we briefly review current research in order to identify the central processes and implications associated with an increased use of mobiles among young people. The section 'Empirical Investigation and Data' further describes our empirical data: the panel, the diaries and the interviews. The 'Results' section then presents and analyses the detailed findings of changing social practice, leading on to our main conclusions, which are discussed in the section 'Conclusions'.

CURRENT RESEARCH ON EVERYDAY IMPLICATIONS

From a theoretical perspective, the mobile phone can be viewed as a technology for adjusting time and space (Adams, 2005; Green, 2002; Janelle and Gillespie, 2004), with the capacity to alter social patterns and the organization of community. In the same way as other transportation and communication technologies, such as the car, the fixed line telephone, television and the Internet, it has the potential to transform people's patterns of mobility, activities, and contacts in time and space. History tells us that the spread of the car, for example, prompted a general transformation of physical mobility from slower to faster interaction, it extended people's daily activity space, caused a fragmentation of their time and an ensuing urban sprawl (Couclelis, 2000; Schroeder, 2002; Vilhelmson, 2005, 2007). The spread of the ordinary fixed telephone line by and large reinforced these trends; it mainly became a complement, rather than a substitute, for physical travel and face-to-face encounters (Fischer, 1992; Lachée and Anderson, 2001). Social practice was transformed as the telephone intensified contacts with family and friends, and also became a tool for planning and coordination of joint activities and appointments, while spontaneous or unplanned visits became more uncommon. The combined and long-term effects of these technologies entailed intensified interaction, a spatial extension of social networks, and more time spent on communication. These effects also had knock-on repercussions for the local community, though there is little agreement as to whether the community was liberated (Wellman, 1999) or eroded (Putnam, 2000).

Even if the fixed line telephone meant (and still means) a radical widening of people's access to others, its personal use is constrained in time and space. Availability is fixed to certain locations, at home or at the workplace, and to times when the phone (or line) is not occupied by someone else, for instance, another member of the household. The mobile mainly affects these constraints by turning the phone into a device solely connected to the individual, rather than being a shared household utility. An individual and unique telephone number provides a connection to a personal network of instant and global reach — equivalent to the Internet — and the act of making contact becomes largely disconnected from the bindings of place and time. A basic question then, of both theoretical and practical concern, is that of the implications for everyday life. Here we recognize three areas of potential effects on everyday practice that can be found in the literature: (i) social impacts relating to *contact patterns, networks, and face-to-face interaction*; (ii) consequences regarding *spatial mobility*, that is, physical travel or virtual contacts made via the Internet; and (iii) implications for *individual planning, scheduling and use of time*.

The social implications of mobile phone-use concern personal contact patterns, social networks, and face-to-face meetings. Several studies show that the mobile generates

an intensified and somewhat transformed practice of social communication (Madell and Muncer, 2005; Ling and Haddon, 2001; Smoreda and Thomas, 2001). Among young people, the mobile is perceived and used as an always-open personal link to a largely local network of friends. Through this personal network, young people can easily make contact from almost any place, at almost any time and for almost any reason. It stimulates additional contact, yet this contact is more impulsive, short, fragmented, and dispersed in time and space; it is contact that would otherwise not have occurred. Text messaging adds another dimension to this, enabling young people to keep each other informed, and to make comments and express their feelings when other means of communication are inconvenient — for instance, late at night or in class at school (Ling, 2004). Some studies also show that frequent use of the mobile is associated with more frequent face-to-face interaction (Ling and Haddon, 2001). All in all, an increased and high level of mobile use appears to lead to an intensification of social contact and an increase in the time spent on social communication. To some extent, however, the mobile replaces the conventional telephone.

Another set of implications involves the physical mobility of people, that is, how travel behaviour and patterns are affected. Timo Kopomaa (2000) depicts the mobile phone as a nomadic artefact and a 'moving force' for more mobile lifestyles, and predicts that the increased use of mobile communication and wireless applications will produce more travel, and that young people will begin to spend more time in urban public (or 'third') spaces, for example in restaurants, bars and cafés, instead of at home. The mobile thus reduces the time-space constraints of everyday life, and promotes more out-of-home activities and travel — one does not have to stay at home waiting for the telephone to ring, or a friend to drop by. This is reminiscent of the much-debated issue of whether the virtual mobility provided by computers and the Internet will replace, complement, or even generate physical mobility and transportation in various contexts (as regards youth, see Thulin and Vilhelmson, 2005, 2006).

Some argue that mobile technologies will transform the intrinsic meaning and experience of physical travel (Lyons and Urry, 2005; Mokhtarian, 2005). Instead of being an activity mainly derived from the need to carry out (stationary) activities at other places, travel will also become, with the rise of various mobile and wireless communications, a more pleasant 'end in itself'. Travel time metamorphoses from a rather useless 'waiting time' into a creative time, used for virtual communication with other people or for sheer entertainment (watching TV, films, listening to music or the radio, and so on), in which the mobile may play a central role.

A third category of implications of an increased use of mobiles is one that concerns people's everyday scheduling, coordination, and actual use of time for social activities and interaction. A drastic change appears to have occurred here (Cooper, 2002; Ling, 2004; Ling and Haddon, 2001; Townsend, 2000). Before the mobile became common, the clock was the main instrument for the scheduling and coordination of everyday activities spread out in space. The mobile now makes it possible to constantly negotiate and re-negotiate agreements for meetings and joint activities in real time as circumstances change. Plans for the day become more flexible and schedules less fixed in time and space, allowing more spontaneous or impulsive decision-making, at least among young people (Ling and Haddon, 2001; Ling and Yttri, 2002). For example, an

appointment may be initiated by a person arriving at a meeting place such as a café or a restaurant when he or she calls to see if any friends happen to be around.

The discussion of increased virtual mobility and access also encompasses general notions of the increased fragmentation of everyday activities in time and space (Couclelis, 2000; Sullivan and Gershuny, 2001) and observations of the increased tempo and time pressures among young people (Green, 2002). The non-communicative periods of the day become shorter, split up by incoming phone calls and a stream of text messages and emails that must be managed and replied to (Ling, 2004). Travel time and other periods of downtime are used for virtual communication, allowing more activities to be combined and compressed, and resulting in a seemingly more efficient way of using time in daily life (Haddon, 2004).

The discussion earlier distinguishes three areas of inter-related implications associated with the general processes of individualization and uncoupling from time and space constraints that are fuelled by the widespread use of mobile phones. These are vital for any thorough understanding of how ICT affect everyday practices and lifestyles in contemporary society (Ellegård and Vilhelmson, 2004; Gershuny, 2000; Graham, 2000). The complex relations between man and technology in general, and the need to avoid deterministic story lines regarding current and future impacts, lend an urgency to the further empirical exploration of the changing use of mobiles in everyday life.

EMPIRICAL INVESTIGATION AND DATA

We employ two sets of questions in order to fulfil our aim of investigating how young people's everyday patterns of social communication and contacts are affected by the increased use of mobile phones. The first set concerns their revealed behaviour (acquired via time-use diaries) and contains concrete questions such as: to what extent and for what purposes is the mobile phone actually used; when is it used and at what locations; are the patterns of use stable and habitual or do they change over time? A second set of questions explores young people's perceptions and opinions (acquired through in-depth interviews), for example: does the mobile enable or replace face-to-face meetings with friends and other people; does the mobile lead to an intensification of communication; how does it affect the coordination and scheduling of everyday life; what side effects are associated with increased mobile use in terms of access, availability and interruptions?

Empirically, we draw on data from a *two-wave panel study* of 43 high-school students living in Göteborg, a medium-sized city of about 500,000 inhabitants (who are among the 750,000 inhabitants of the urban region of Göteborg) located in western Sweden.¹ Data collection was first carried out in the autumn of 2000 when the respondents were 18 years old. It was repeated two years later, in the autumn of 2002, in order to capture individual changes and habit-formation processes in relation to the use of computers, mobile phones and physical transportation. During this period the research subjects, not only got older and more used to mobile phones, but also

entered a new life course stage after finishing school: some left home, some entered working life or higher education, etc. This is likely to cause changes in their time use (for example, the amount of free time available) and bring changes difficult to separate from age-related ones, which is important to bear in mind when interpreting findings from the study. Six persons did not respond, thus the final selection consists of 37 students — 19 women and 18 men. Data were collected through time-use diaries covering one ordinary week, and in-depth interviews. The diary included information about real and virtual contacts: contact modes, purposes, locations and duration. As regards the mobile phone, reliable time use estimates were not possible to obtain, whereas the frequency and timing of contacts were included. The interview focused on the role and routines of (in this case) mobile phone use in everyday life, the development of habits and perceptions, and ways in which the mobile might affect the contact pattern, activities and lifestyle of the respondent.

RESULTS

Although young people's *access* to mobiles in Sweden has almost reached the level of saturation, data from the latest national communication survey (conducted in 2001) still revealed rather low levels of mobile *use*. Despite the fact that young people made relatively high use of mobiles for social communication and private calls in comparison with other age groups, their average use was still only one call per day (Thulin, 2002). This seems to contradict the stereotype of young people on the move, constantly using their mobiles, and indicates that a high level of access to a device does not automatically produce extensive usage. Even if, as expected, mobile phone use has increased since 2001, still no more than 20 per cent of all young people (15–24 years old) make more than four calls per day, according to estimates from a recent national media survey (Bolin, 2006).

Data aggregated from the one-week diaries of our panel — which we do not claim to be representative — show that in 2000, when the subjects were 18 years old, average mobile use corresponded to 1.5 contacts per day (Figure 1). Two years later, in 2002, the average use had increased to 2.5 contacts per day. Half of these contacts were voice calls and the other half were SMS text messages. Overall, the young women used their mobile phones much more frequently than the young men, a difference arising almost entirely from the women's more extensive use of text messages.

Voice calls and text messages wholly dominated mobile usage; applications such as watch/alarm, personal organizers and alerts were used to some extent. More recent applications such as Internet browsing, email, built-in cameras, and music (mp3 playback, radio and so on), were not yet available in 2002, and when asked about such upcoming features, the interviewees showed a rather shallow interest.

The time diaries also showed that an increased and more extensive use of the mobile went hand-in-hand with an increase in the time spent on other forms of social contact and communication, such as face-to-face meetings and Internet-based communication (Table 1). This suggests that contact via mobile phones mainly complements

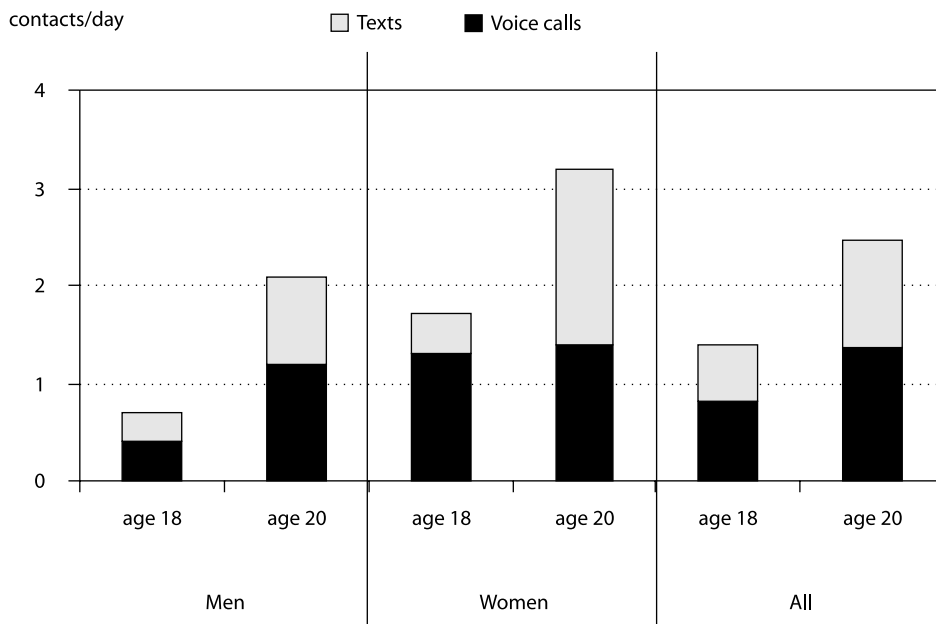


Figure 1 Daily mobile phone use among the panel of urban young people, Göteborg, Sweden, autumn 2000 and 2002.

Table 1 Time spent on various forms of social communication and contact among the panel of urban young people, Göteborg, Sweden, autumn 2000 and 2002

Mode of Communication	Minutes per day	
	18 Years Old	20 Years Old
<i>Contact frequency (contacts/day)</i>		
Mobile phone	1.4	2.4
Landline phone	1.9	1.7
<i>Time use (minutes/day)</i>		
Landline phone	27	21
Internet	34	43
E-mail	8	10
IM/chat	2	17
Travel	92	84
Face-to-face	76	112

'real' interaction, physical mobility and computer-based communication. To a certain extent it is a substitute for the conventional fixed line telephone. However, according to the interviewees, the operational costs and suspected health risks (due to radiation) associated with the mobile often favoured the fixed telephone, for lengthy calls in particular.

A considerable amount of mobile communication — almost 50 per cent of all text messages and 40 per cent of all voice calls — was made from the home, the rest being made in the city, at school, in restaurants, bars, and cafés, or while on the move (see Figure 2). This counters the common view that mobile phone use is typically linked to out-of-home places and movement. It further demonstrates that young people increasingly employ the mobile as a central node of communication, even when the fixed telephone is available.

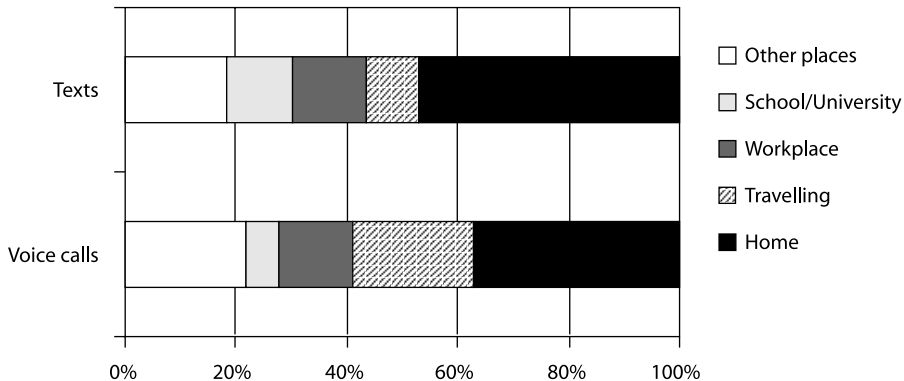


Figure 2 Daily mobile phone use at different locations among the panel of urban young people, Göteborg, Sweden, autumn 2002.

The increased mobile phone communication among the subjects of the study group took place at almost every hour of the day. During the course of a day, the pattern of mobile contacts mainly paralleled the use of the fixed line phone, with slight differences (see Figure 3). The mobile was more often used during the early morning, in the afternoon, and late at night. Interviews revealed that contact made during the afternoon often concerned the planning of social activities due to take place later on in the evening.

The general picture of use and users altered significantly between 2000 and 2002. In 2000, a large majority (two-thirds of the subjects) used their mobiles for less than one contact per day (see Table 2). Two years later, this group of less frequent users had shrunk to only one-third of the total, and at the same time the number of more frequent users had doubled.

Several factors affecting the daily frequency of use emerged from the interviews, mostly concerning cost, the actual need for communication and deliberate usage strategies. The cost of calls and messages is an obvious constraint, and was mentioned by nearly everyone; in Sweden, mobile calls and text messages are rather expensive, particularly when considered in relation to the limited budget of a young person. There are also individual variations in the need to communicate; several people had a social network consisting of only a few friends and family members with whom they had to keep in daily contact. Another reason for variation concerned active strategies for coping with the mobile. Some people carried their mobiles everywhere and never turned them off, and were thus reachable day and night. Others tried to

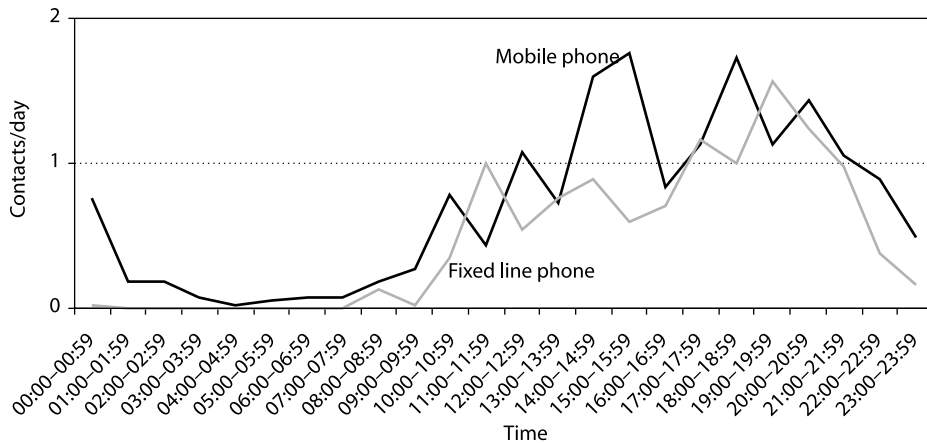


Figure 3 Use of mobile phone and fixed line phone at different hours of the day among the panel of urban young people, Göteborg, Sweden, autumn 2002.

balance their use, carrying their mobiles temporarily and purposefully, and only when they were really needed, leaving them at home or switching them off at other times.

Table 2 Changing user strategies as reflected by the daily frequency of mobile phone use among the panel of urban young people, Göteborg, Sweden, autumn 2000 and 2002

	at Age 18			at Age 20		
Frequency of use (contacts per day)	Women	Men	Both	Women	Men	Both
More frequent users (>3)	6	1	7	10	5	15
Frequent users (1–3)	3	3	6	8	3	11
Less frequent users (<1)	10	14	24	1	10	11
Total	19	18	37	19	18	37

Differences in the use of the mobile phone are mirrored in other means of social communication; people who used their mobiles more frequently also spent more time in face-to-face interaction and travel (Table 3). This reveals the underlying detail of the complementary relationship phenomenon noted earlier; for these people, who spend more time outside the house and use the mobile the most, the mobile seems to have a reinforcing effect on total social contact, communication, and interaction outside the home. At the same time, these more frequent users spent less time on the Internet, which is predominantly a home-based means of communication (see also Thulin and Vilhelmson, 2006).

The opposite relationship appears to hold for less frequent users of the mobile. They spent comparatively less time travelling and interacting with other people face-to-face, and more time making use of Internet-based communication at home, particularly chatting with friends. Various channels for instant messaging were often left open when the computer was being used for other purposes, on or off line.

Table 3 Mobile phone use and time spent on various forms of social communication and contact among the panel of urban young people, Göteborg, Sweden, autumn 2002

	<i>More frequent users (>3 contacts/day)</i>	<i>Frequent users (1–3 contacts/day)</i>	<i>Less frequent users (<1 contacts/day)</i>
<i>Contact frequency (contacts/day)</i>			
Mobile phone	4.9	1.9	0.4
<i>Time use (minutes/day)</i>			
Fixed line phone	17	35	12
Internet	31	43	60
Instant messenger/chat	6	11	46
Email	6	8	12
Travel	96	92	67
Face-to-face socializing	128	116	81

Though it may appear that the mobile phone and the Internet are competing technologies, and can be used as substitutes for each other, their use seems to attract different segments of young people. Rather than being determined solely by access to technology, actual choices depend on individual characteristics (personality, values and attitudes) and socio-economic and spatial contexts.

The interviews confirm previous research on the functional and expressive purposes of mobile phone use. The mobile is often used for scheduling and coordination of meetings and joint activities within a tightly-bound network of friends and family. Expressive communication — comments like ‘not that important’ and ‘that really doesn’t matter’ — is also common. Voice calls and text messages are mainly considered complementary means of keeping in touch. Texts are also used in problematic situations and when direct communication is being avoided, or when someone needs contact and support but does not wish to talk. Moreover, texting is increasingly becoming a source of entertainment or a pastime, for example, when travelling by public transport or during boring periods at school.

I SMS when I’m bored and have nothing to do; it’s a meaningless thing, for passing the time. It’s fun to send funny messages to a mate. (subject 6)

Texting is clearly gendered. The use of expressive text messages was already frequent among young women at the time of the initial interviews in 2000. In 2002, after the study group had left high school, messaging had become more of a habit, though their social networks and contacts had become more far-flung. Text messages had become an important means of maintaining everyday interaction with friends, even over quite long distances.

In the second wave of interviews, each research subject was asked to reflect *in retrospect* on how increased mobile phone use affected everyday life, taking into consideration various social practices and inter-personal interactions. The most obvious change reported by this group involved the scheduling and coordination of social

activities and meetings with friends during their free time. The rise of immediate and permanent access — disconnecting communication from time and space constraints — did indeed promote more impulsive decision-making over a reliance on routines, fixed agreements, planned behaviour, and scheduled activities. The consequences for social practice include constant negotiation and re-negotiation, a preference for keeping as many options as possible open for as long as possible, and delayed final choices.

The mobile is excellent when you're meeting someone in town; I don't have to settle on the exact time when I'll get there, I just call when I'm nearly there. (subject 9)

If you're going to do something during the day and there are lots of loose ends, you say you'll call each other when something is decided. (subject 11)

A closely related implication, and a common experience, is that people become more careless about time-keeping. Many calls and messages concerned delays and people not being on time. It appears that one benefit of the mobile — that of never being left with no information — has made postponement more socially acceptable. Young people have adapted their behaviour accordingly, and also become more tolerant of others not being on time, in comparison to their level of tolerance a couple of years ago.

Now, we don't give a damn if people arrive on time or not, they can just call on the mobile! (subject 35)

The mobile has thus triggered a new way to arrange and regulate social activity, at least during leisure time. One consequence, pointed out by many, is that the clock no longer serves as a major instrument for the synchronization of joint activities in time and space. Time schedules have been overtaken by the instant access provided by the mobile. As a consequence, the mobile phone has become more and more difficult to resist or reject. Many experienced an increased *dependency* on the mobile over the years, which made things more difficult for those trying a strategy of control vis-à-vis the mobile, for instance carrying it only for parts of the day and for specific purposes. Demand and necessity were added to the initial (and still prevailing) feeling of autonomy due to increased access. Frustrations, such as when the mobile does not work properly or when the network is down, are small signs of the vulnerability of the whole system.

I could hardly survive without my mobile. No one keeps time anymore. You know that if you make an appointment with a friend and forget your mobile, everything turns into a catastrophe. (subject 27)

These changes also affected those who did not want to have a mobile, or had limited access, when first surveyed in 2000. Two years later their attitudes had changed, partly because of the 'no one keeps time anymore' argument, and partly because of the perceived risk of being disconnected, uninformed, and excluded from friends and their social activities.

If you don't have a mobile you're a bit excluded. For instance, if they [friends] decide on doing something, they can always get in touch, but they can't reach me if I'm not at home.

So then they might do something without me and I might feel ignored ... before, I had no need [of a mobile] (subject 7)

Apart from affecting the management and control of meeting other people, many stressed how the mobile makes it much easier to socialize spontaneously, for example, by calling a friend if one happens to be near his/her home or school.

If I'm in the city, I sometimes call a friend and it's like, yes, you've got a break too, let's meet up then. It's much easier to meet when you have a mobile. (subject 16)

Several people thus claimed that the mobile led to them meeting their friends more often. It reinforced, not just complemented, face-to-face social contact, and enabled chance encounters in daily life.

But I think I would do fewer impulsive things, for instance, going to the café on my way home [without the mobile]. (subject 36)

If you're out in the city it's often difficult to decide on fixed times. Instead of planning in little time-slots, you can always call, and go yes, you're somewhere nearby — let's meet! (subject 28)

Increased instant access also affects daily life in more specific ways. Some interviewees argued that the mobile phone made them more physically mobile and sociable. They were less tied to their homes, for example, not needing to wait there for the (fixed) telephone to ring. The increase in unexpected meetings and activities resulted in more time (and longer periods) being spent away from home. The mobile also made it easy to call home to say that return would be later than expected.

You don't have to go home to call someone. You can stay away from home for a longer time. If I'm in town, I can always make calls and see if someone else is there too and wants to meet up. I can always call home and tell them where I am. (subject 31)

It seems to me that people are more mobile when they have a mobile. I would probably sit at home waiting by the phone more, if I didn't have my mobile. (subject 27)

Mobile phones, and text messages in particular, were often used to fill 'empty gaps' in the day, for instance while waiting for or travelling by public transport. Travel time was used for virtual contact: to say hello to a friend, show someone appreciation, send some gossip or drop a line to someone not seen for a while. The mobile has transformed this type of 'passive' time by allowing for distractions and passing the time.

If you've got nothing to do, you can always send a SMS. It fills some time on the bus or wherever. It's usually just a joke, nothing you'd bother making a call for. (subject 32)

Finally, a crucial issue is whether the mobile actually brings too much interaction and social communication. Is there a risk that an ever increasing flow of signals, SMSes, MMSes, emails, and so on, will take time and attention from ongoing and more valuable activities and become sources of stress and annoyance? A few young people on our panel expressed such fears and tensions regarding the mobile.

I hate the mobile, or, no I don't, well, yes. I think it's annoying. I really want to get rid of it sometimes, but since I have a mobile I think I'd better bring it with me and have it on. Otherwise it would be pointless... but it is stressful. There are mobiles everywhere. (subject 35)

However, this view was something of an exception. Most of the panel expressed positive attitudes towards the mobile phone and its implications for everyday life in general. The strengthening of contact enhanced their independence and enjoyment rather than creating pressure and anxiety.

CONCLUSIONS

In conclusion, our findings show that the mobile phone, as a space-time adjusting technology, affects the everyday social practice of young people in numerous and interrelated ways. Though the results from our intensive panel study must be treated cautiously as regards their generality, they hint at some probable processes concerning the use and implications of the mobile in society. On the whole, within the study group, mobile contact by voice calls and text messages increased significantly during the short period of investigation, thus further *reducing the role of physical proximity* and friction of distance in everyday social interaction. To an extent, communication via mobiles also became more gendered, mostly due to women's more extensive use of text messages. Among the young men of the group, Internet-based communication played a much more important role (see also Thulin and Vilhelmson, 2005).

An increased use and experience of mobiles went hand-in-hand with *spending more time on other forms of social contact* and interaction: face-to-face meetings, travel, and computer-based communication such as email, instant messaging and chat rooms. Together with greater experience and use, this overall change is most probably associated with period effects (as the availability of ICT among the population increased in general) and certain lifecycle effects (as the research subjects entered a new life course stage) as well. Independent of cause, the mobile phone generally served as a *complement* to young people's existing means of social interaction. Yet the relationships are not uniform and a diverse pattern is apparent. Among young people who spent more time outside the home and used their mobiles more frequently, the mobile seemed to generate *additional* out-of-home interaction. At the same time, more frequent mobile users spent *less* time on Internet-based communication than did less frequent mobile users. This latter group stayed at home more, but also spent more time socializing on the Internet, especially via instant messaging. This suggests that the choice between different options for virtual communication — the mobile phone versus the Internet — largely depends on factors related to an individual's personality, personal need for communication and intended strategy of use, rather than being determined simply by access to technology. Simplistic theories of technological determinism, mono-causal frameworks and hypotheses concerning homogeneous implications across the younger generation should be avoided.

However, actual differences in mobile use became less apparent over time as the mobile phone became more and more popular, and more people began to use it frequently. Hence perceived *dependency* on the mobile was intensified, and there was a reduction in the number of people actively striving to restrain their use, for instance, by carrying the mobile only temporarily or switching it off for certain periods of time. A large proportion of mobile communications were made from home, suggesting that young people are increasingly employing the mobile as their prime personal node of communication, even in locations where a fixed telephone line is readily available.

Our results support previous research classifying the main purposes of young people's mobile communications — functional (or practical), expressive and symbolic. They also further emphasize the role of the mobile phone as a tool for *entertainment and distraction*. Text messages, in particular, are used to fill 'empty gaps' in the day, making tedious periods more meaningful. The short message service also lowers the threshold for communication and is often used for messages resembling small talk or 'unimportant' chat, or employed in order to avoid voice contact. Texting is increasingly becoming an important means of sustaining everyday interaction with friends, not least in times when social networks are more mobile and less tied to the local community or neighbourhood. Certainly, the mobile phone — just like email and instant messaging — appears to be a mundane technology that actively supports local interaction and community, as well as an ongoing trans-nationalization of everyday social spaces.

One rather noticeable change in social practice, according to our panel of young people, concerns the scheduling and coordination of joint activities and meetings during leisure time. A more *impulsive and hasty practice of decision-making* has evolved, characterized by continuous negotiation and re-negotiation, a preference for retaining freedom of action as long as possible, and last-minute choices. Closely related is the commonly held view that people have become *more careless about timekeeping*. Postponements and interruptions have become more socially acceptable in everyday life. The life of instant access offered by the mobile is thus increasingly difficult to turn down, as fixed time schedules, set plans for the day, and the clock no longer serve as primary instruments for the coordination of social activity during leisure time. Most young people experience a more intense dependency on mobiles, and a changing attitude towards them. Almost no one will run the risk of being excluded from friends and social contact by not having instant access to a mobile. Many on our panel stressed the role of the mobile in making it much easier to socialize and meet friends more often: it reinforces face-to-face meetings and enables people to meet spontaneously in daily life.

The overall conclusion of this panel study is that young people's *total* interaction with their social environment may expand due to the mobile. Contact has become closer and more frequent, not least as a consequence of the advancement of a more flexible and less planned lifestyle, which is characterized by instant exchanges and constant updates. Several thresholds and frictions for communicative action and reach — as regards physical and social distance, timing, and content of contacts — have been reduced when compared to the conventional fixed line phone. Even though

they have experienced a greater dependence on the tool, most of the young people on our panel expressed a genuinely positive attitude towards the mobile and its implications for social practice and everyday life. The strengthening of contact enhances their autonomy and life satisfaction rather than creating pressure and unrest.

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- 1 Our collection of panel data is part of a research project investigating the physical and virtual mobility of young people in Sweden. A third wave of data collection took place in 2005.

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