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Sociology of the Mobile Phone

Are girls (even) more addicted?

Some gender patterns of cell phone usage

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(with the collaboration of Késia U. e S. Trench)

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1. Mobile phones and gender roles

In contrast to the computer and the Internet where gender-related differences in usage are still pervasive, the cell phone is usually described as a highly egalitarian technology that has been adopted similarly by both genders (as well as by populations differing in age, income, education and ethnic origin).

In a very fundamental way, the cell phone has contributed to equalize the communicative social integration of men and women much more than the Internet, where male users still dominate. In several countries, women use it more heavily than men – for voice calls as well as for text messages (ITU 2004:11)

Certainly, girls were lagging somewhat in ownership in the earlier stages of mobile diffusion (but most of them were still able to borrow a phone when they needed one (Ling 1999b)). This initial gender gap is usually attributed to a generalized positive stance of males toward innovative technologies – an addiction to novelties and an eagerness to try out that disposes them to adopt immediately all kinds of new equipments (Ling 2001a).

However, gender gaps in usage extensity and intensity soon narrowed, and in many places, women even began to lead after 1998. In his Norwegian study of 2001, Rich Ling found that among teenagers, more females than males were in possession of a mobile phone (Ling 2001a:9), while among young adults (over 20), the reverse was the case. In this advanced age, more males than females owned a handset, and they used it more intensively (Ling/Helmersen 2000; Ling 2001a: 9). Women reached their peak usage intensity relatively early, at 18, while men reached it much later, at about 23, when they sent significantly more calls than women of the same age (Ling 2001a). The authors concluded that when access to a readily borrowed mobile telephone is reduced – that is when they move away from home – young women are not motivated to the same degree as boys to establish their own subscription. In accordance with this hypothesis, Ling also found that more boys than girls pay their phone bill themselves, instead of getting “subsidies” from home. However, psychological gender divergences may also be involved because it has been found that women seem to become more reluctant to talk on mobile phones when they get older than 25-30. (Ling 2001b).

While both genders are rather similar in the *quantitative* intensity of usage, they still differ significantly in the *qualitative* patterns and purposes of use. In fact men and women have always been found to maintain quite different attitudes toward the phone and to give it a different place in their whole “communicative economy” (Rakow, 1992; Moyal 1989 etc.). In a very early study of mobile phone usage, Rakov and Navarro hypothesized that the mobile telephone was reinforcing conventional gender patterns, e. g. by emphasizing the role of the woman as an “accessible nurturer” and a person in need of male protection (Rakov/Navarro 1993)

Without corroborating the need for such dramatic typological characterizations, later studies have nevertheless confirmed that the motivations and goals of cell phone usage patterns mirror rather conventional gender roles.

1) Typically, men are stressing instrumental phone uses, as

“...more amongst boys than girls –, the mobile phone is seen as an instrument helping to organise life, to arrange dates and contacts, actions, meetings, etc., thus aiding in growing in maturity and autonomy, both necessary for the adult stage.” (Lorente 2002: 17)

Women, on the other hand, tend to use the phone more as medium for personal and emotional exchange (Lohan 1997; Lorente 2002: 16):

“Men appear to have a different concept of communication. In contrast to women, they give an “objective reason” for the “usefulness” of their call. Men maintain that they mainly arrange appointments, exchange short snippets of news or information and discuss defined questions or problems. Women admit to calling “for the sake of it”, to speak with one another and to ex-

change general news. The shorter duration of men's calls seems to be connected with their different understanding of communication and its embodiment in the telephone". (Lange, 1993: 213)

More recent studies have demonstrated that women use the mobile more for *lengthy talks* about personal and emotional matters, while males make *shorter calls* dedicated more frequently for instrumental purposes (e. g. for coordinating meeting times and places) (Kunz Heim 2003: 89; Mante/Piris 2002). Females are more involved in gossip, because men also tend to gossip primarily with women, not with other males (Potts 2004; Fox 2004)

Such findings are in accordance with the more general socio-psychological regularity that girls are more prone to disclose personal information and emotions and to discuss their subjective tastes and interests than boys (Buhrmester/Prager 1995; Jourard 1971; Stern 2004), and that they are more disposed to talk about their anxieties (O'Neill/Fein/Velit/ Frank 1976). They also converge with the regularity that women have more sophisticated communication and conversation skills, they are more apt to initiate new topics (Fishman 1978) of conversation and to adapt when topics are changed (Sattel 1976).

It has also been found that such gender gaps widen during adolescence because girls increase their emotional expressiveness, while boys develop norms that restrict such personalized articulations (Polce-Lynch et. al 1998).

In this view, males see the mobile phone primarily as an empowering technology that mainly increases the independence *from*, not the connectedness *with* the social environment:

"Its ownership, but not necessarily its use for social interaction, provides a secure foothold. It increases ones' potential for independent action and, when confronted with the unexpected such as coming upon a car accident along the road, the mobile telephone allows one to aid in setting things aright. There is also the symbolic value of being involved with the newest technologies as being a sign of one's modernity." (Ling 1999a).

2) Boys are also more prone to explore the ever expanding new functional features of current mobile phones (e. g. for gaming, hooking up to the Internet etc.), while girls use a narrower scope of (exclusively communicational) functions (Höflich/Rössler 2002: 94f.). Therefore, boys report more frequently that they have "fun" in using the phone (Höflich/Rössler 2002: 95). These German findings conform with the results of Potts' Oakland study which demonstrated that males make more use of the more expanded Internet functions of the mobile, while women restrict their usage to more conventional (communicative) functions (Potts 2004). Similarly, Skog (2002) observed that girls valued social functionality of the mobile phone higher than boys, who on the other hand stressed technical functionality and non-interactive uses like gaming (see also: Mante/Piris 2002).

3) As is well known, women have a central role in maintaining any kind of social network, especially among family members and kin. (Wellman 1992; Ling 2001a; Ling 1998). Therefore, the networks of women are often larger and more complex than those of men (Cochran et. al 1993: 90; Moore 1990). Women are also more prone to keep connected to their family - what should result in a higher preference for family members (and other highly familiar individuals) as phone partners

"Possibly, boys at adolescence make greater effort in their self-presentation to appear autonomous and free from their families, whereas girls worry more about appearing connected, both to families and increasingly at adolescence, to romantic partners." (Stern 2004)

Thus, it is to be expected that phone adoption by girls is more heavily determined by parental status characteristics, preferences and behavior than in the case of boys:

"The mobile amongst the former would seem to be brought in more frequently through the role of parents, as a safety means for controlling the girls' autonomy. In the case of boys, however, adopting the mobile would seem more linked to an autonomous process with this telephone being at once an item for achieving masculine identity and a symbol of modernity." (Lobet-Maris/Henin 2002: 106).

4) Several studies have shown that the meaning and use of the mobile phone changes with age. The preoccupation with SMS messaging is especially high in the early teens. After 16, the adolescent shows a more 'grown-up' pattern of mobile phone use, in which SMS becomes less and face-to-face interactions more important (Rautiainen 2000). When they are around 20, voice calls have replaced SMS to a significant degree (Ling 2001a: 10; Potts 2004).

However, Rich Ling's studies demonstrate that adolescent females as well as adult women up to 40 are more active in sending SMS messages than males. In addition, Kaseniemi & Rautiainen (2002) observed that girls tend to write longer texts: they more often used all 160 characters of an SMS and filled it with references and social gossip, while boys often wrote messages of 40-50 characters with "plain language". On the other hand, young and middle-aged males are the most active audio callers (Ling 2001a: 10).

Such divergences seem to have roots in rather early adolescence, as Eldridge & Grinter have found that girls aged 15 send on the average 3.3 SMS per day, boys of the same age only 2.5. (Eldridge/Grinter 2001). This may reflect the very traditional fact that women prefer less obtrusive forms of communication vis-à-vis men, while men are still expected to approach females more determinately: by making a call.

"SMS is an ideal way for initiating contact with the other sex because it offers intimacy and distance at the same time. The sender of an SMS doesn't risk to lose face if her expressions of sympathy are not reciprocated by the receiver. - not as this is the case in a face-to-face encounter. The SMS is the "billet doux" of the 21. Century". (Kunz Heim 2003: 104)

Thus, sending an SMS means that it is up to the receiver to decide whether and when he or she will answer it, while voice calls are more risky because they may intrude into an unfitting situation or may evoke a sudden, unreflected reaction.

2. The scope of the present study

By considering all these rather preliminary findings based on a narrow time range and quite few countries, there is much need for additional research studies elucidating the pervasiveness and strength of gender divergences as well as the situational conditions under which they are amplified or attenuated.

For three reasons, the empirical study presented here can address fruitfully these and similar questions:

First, it covers an additional Western country where hitherto no extensive surveys on this topic have been conducted. *Secondly*, an unusually broad spectrum of behavioral and attitudinal variables have been measured, so that their particular causations and interrelationships can be studied. *Third*, the rather comprehensive sample (more than 1400) allows for multivariate statistical analyses, so that gender effects can be isolated from confounding (e. g. age- or SES-related) determinative factors.

3. Data and Methodology

The following empirical results are based on a survey carried through in 2003 at several vocational schools in Zurich (Switzerland): comprising young apprentices (mostly between 17-21) in the field of construction, office administration as well as fashion and design. Based on the teacher's permission, the standardized questionnaire was applied during classes, so that a very high return rate (of about 95) could be achieved.

The pervasiveness of the new technology is dramatically demonstrated by that fact that out of 1415 respondents, not less than 1356 (=95.8) percent were currently in possession of a personal mobile phone, and among the 59 non-owners, 28 had the habit of borrowing sometimes a set from a sibling

or a friend. Among the owners, a rather equilibrated distribution according to gender and age was achieved (Table 1).

Table 1: Frequency distribution of respondents: according to gender and age

	Current age (2003)					Total
	-17	18	19	20	21+	
female	103	185	152	55	56	551
male	165	216	209	109	106	805
Total	268	401	361	164	162	1356

The highly multicultural demographic structure of current Switzerland was mirrored in the fact that more than 30% of all respondents (421) were originating from a foreign country.

For setting the following empirical results in an appropriate perspective, it has to be considered that apprentices are involved in the dual system of vocational education: attending school during 1-2 days a week, while working in a specific firm during the remaining time. This implies a way of life sharply different from those of full-time students.

In particular, school-based peer group integration may be weaker, because apart from participating in their class, they also participate in a work setting where they become involved with people representing very different age cohorts and generations. In addition, these work settings weaken homogeneity and solidarity among adolescents because they are highly divergent: according to geographic location, size and culture of the firms etc. Thus, it might be hypothesized that in contrast to full-time students, apprentices are less involved in peer groups of the same age, and that are more disposed to adopt behavioral habits of older adult populations.

Finally, apprentices receive at least a small regular monthly income they can often use for nonvital "luxury" purposes, because most of them still live at home. Therefore, they are better able to pay their own phone expenses - but may also be more disposed to economize mobile phone use in order to keep their monthly bills within reasonable limits.

4. Empirical results

4. 1. Age patterns of cell phone adoption

By asking the apprentices (most of them currently aged 17-21) how old they were when they took their first cell phone into possession, the breath-taking diffusion speed of mobile phone technologies since the late nineties can be reconstructed.

As seen from Figures 1 and 2, the evolution of adoption ages was substantially the same for the two genders. By taking a closer look, however, two minor differences can be detected:

- 1) Within the oldest cohort, girls were somewhat more prone to adopt the cell phone already in 1999 (when they were sixteen) , while most boys adopted it an year later (in 2000).
- 2) Within the youngest age group (born in 1987), girls again have taken the lead: almost 60% (compared to 40% boys) have become phone owners already at the age of 13, and 85% (instead of 70%) one year later. Absolutely all girls aged 15 use their own handset, while boys reach this saturation point at 16.

Interestingly, no significant gender differences are found in the three intermediate cohorts (born between 1984 and 1986).

Figure 1: Age at first cell phone adoption for different birth cohorts of boys (cumulative percentages)

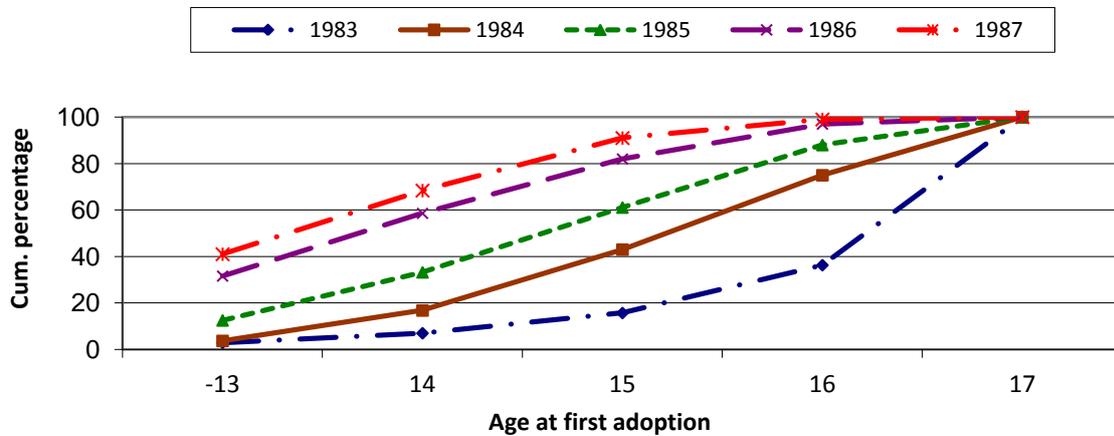
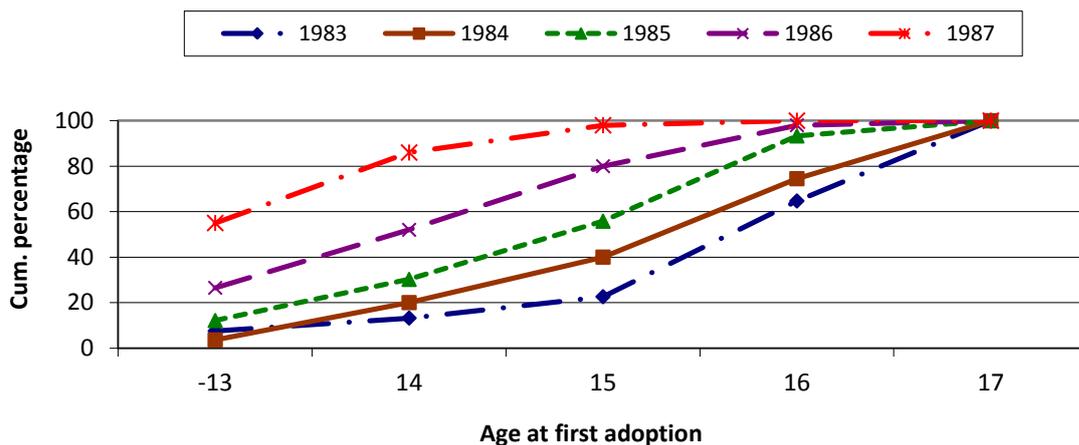


Figure 2 : Age at first cell phone adoption for different birth cohorts of girls (cumulative percentages)



These findings again corroborate the contention that cell phone technology is highly egalitarian by being adopted almost identically by both genders. In this aspect, mobile communication contrasts dramatically with computers and most other technological inventions where males usually have been early adopters, driven by the fascination to try out risky new things as well as by the motivation to gain reputation among themselves or vis-à-vis their female acquaintances. Certainly, this has much to do with the capacity of the new technology to meet female's needs of social communication. In fact, as the cell phone supports primarily bilateral relationship, it is most useful to teenage girls because girls in this age are most prone to engage in dyadic friendships, while boys prefer more multilateral interactions (Meulman 2000).¹

¹ The cell phone is particularly useful for females to the degree that their movement in space is more tightly controlled than that of boys: so that they can maintain certain contacts at certain times (e. g. after midnight, when they have to be at home) only by phone. In other words: the cell phone can contribute to a levelling of gender differences even in traditional setting because control over the spatial movement of females is less consequential than in earlier times when it was synonym with total social isolation. Thus, such girls may be less likely to develop a closed "bedroom culture" (McRobbie 1978) together with their most intimate female friends.

A second explanation may be based on the assumption that girls are more likely than boys to be “sponsored” by parents who want to remain connected to their absent daughters by this “invisible umbilical cord”. Indirect evidence for this hypothesis is provided by Table 2 which shows that girls of any age are more likely than boys to have their current cell phone received as a gift. Such gender discrepancies may even be expected to rise to the degree that the parental generation has also universally adopted the new technology and produces a constant flow of outdated, but still functioning handsets that can easily be recommissioned to their teenage (or even: pre-teenage) kids.

Table 2: Percentage of apprentices who have received their actual cell phone as a gift: according to gender and current age

	Current Age				
	-17	18	19	20	21+
females	68	61	49	42	34
males	46	40	29	21	26
Chi2 (sign.)	11.933 (.000)	16.873 (.000)	14.970 (.000)	7.774 (.005)	1.278 (.180)
(N =)	(267)	(398)	(360)	(164)	(161)

4.2 Intensity of usage

The term “usage intensity” is a multidimensional concept that has to be operationalized by a comprehensive battery of empirical indicators: by the average monthly telephone bill as well as by the number of outgoing and incoming audio calls and text messages, the average length of calls as well as the time span of connectivity and the number of contacted partners.

Looking first at the *financial expenses*, both genders show a similar curve consistently rising with current age (Figure 3). While males aged 16, 19 and 20 spend somewhat more than respective girls, no gender differences in the remaining age categories are observed. Evidently, most apprentices of both sexes seem to keep their phone bill very much in line with their modest financial possibilities, as most of them have to get along without parental subsidies.

By focusing on the *average monthly amount of outgoing calls*, a very different picture emerges. In accordance with the Scandinavian findings mentioned above, males are more active in making audio calls (except in the youngest group where no gender divergences exist, while younger girls (and also women above 20) are significantly more prone to send out text messages (Figure 4). This hyperactivity is certainly caused by the fact that SMS costs are rather low and highly controllable – so that it contrasts visibly with the low monthly expenses (Fig. 5).

Thus, two peaks in usage intensity stand out: a male peak at 19-20 when the frequency of audio calls reaches maximum levels; and a female peak at 17 when SMS activity is on highest levels.

Figure 3: Average mobile phone bill per month: according to gender and current age

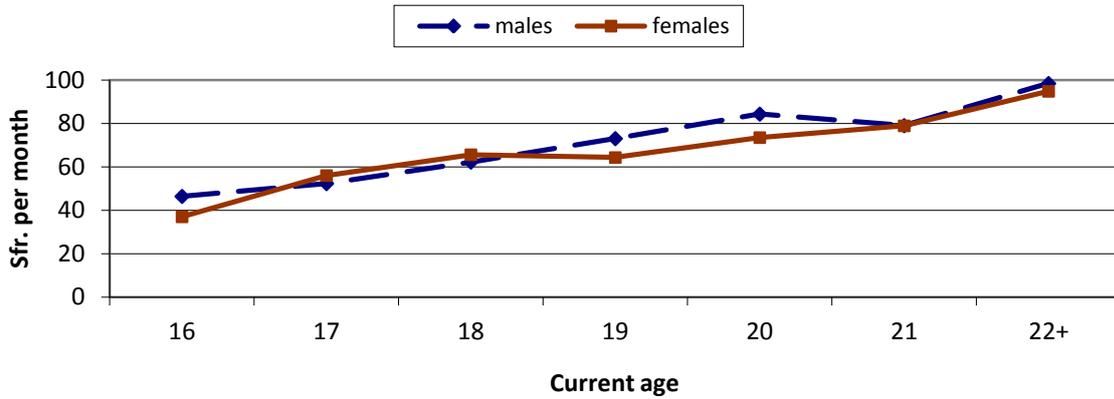


Figure 4: Average number of outgoing audio calls per month: according to gender and current age

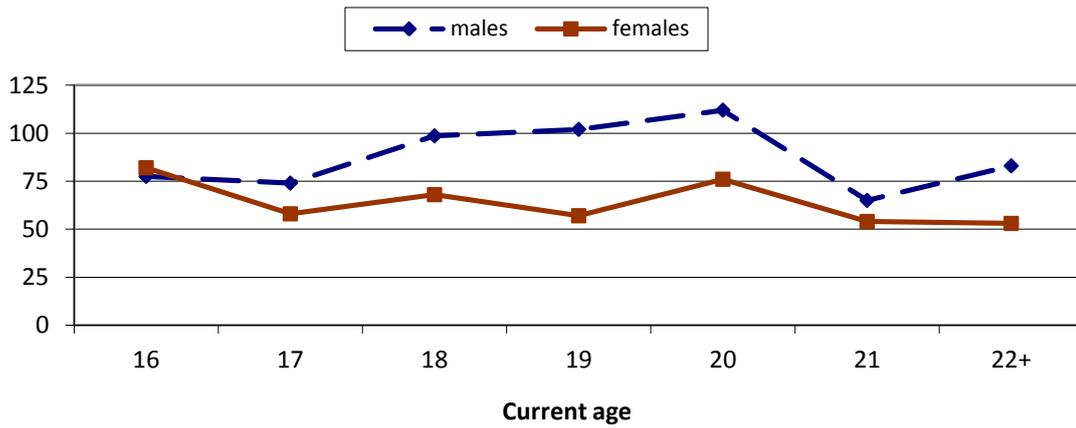
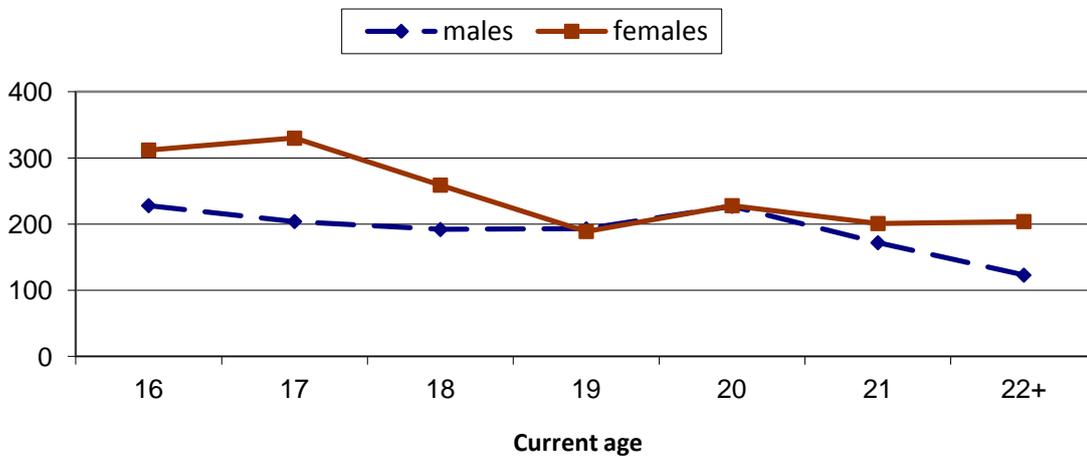


Figure 5: Average number of outgoing text messages (SMS) per month: according to gender and current age



As a joint consequence of these tendencies, girls aged seventeen have an extreme average ratio between SMS and audio calls (more than 15(!), while males and females over 20 converge on a much lower level (about 5) (Figure 6). Following the lines of conventional gender role clichés, we may speculate that females show higher rates of passive cell phone usage by sending out less calls and messages they receive (especially from courting males). Looking first at audio calls, it seems that this may be the case for the very youngest female group (aged 16), while older apprentices show consistently lower ratios regardless of gender (Figure 7),

Figure 6: Average ratio between the number of SMS and the number of audio calls (outgoing and incoming) per month :

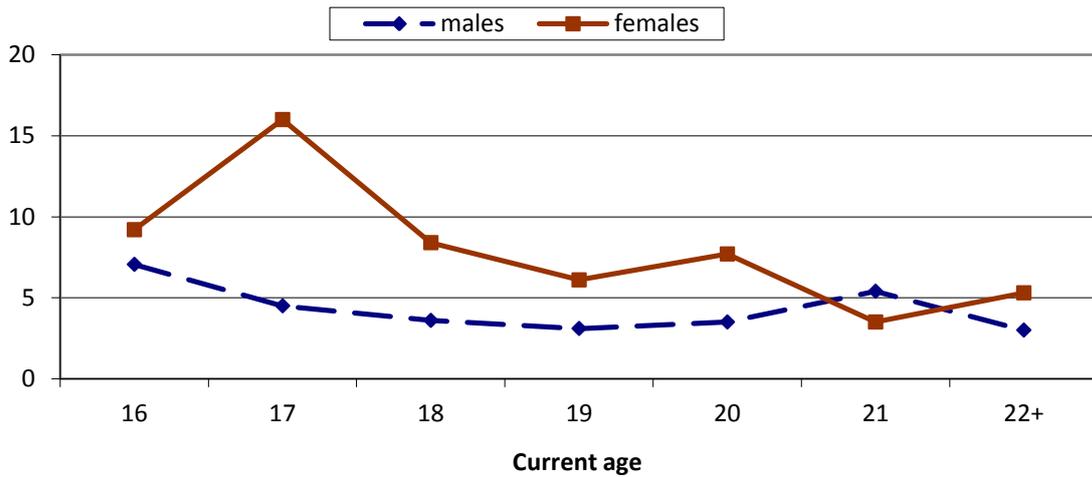
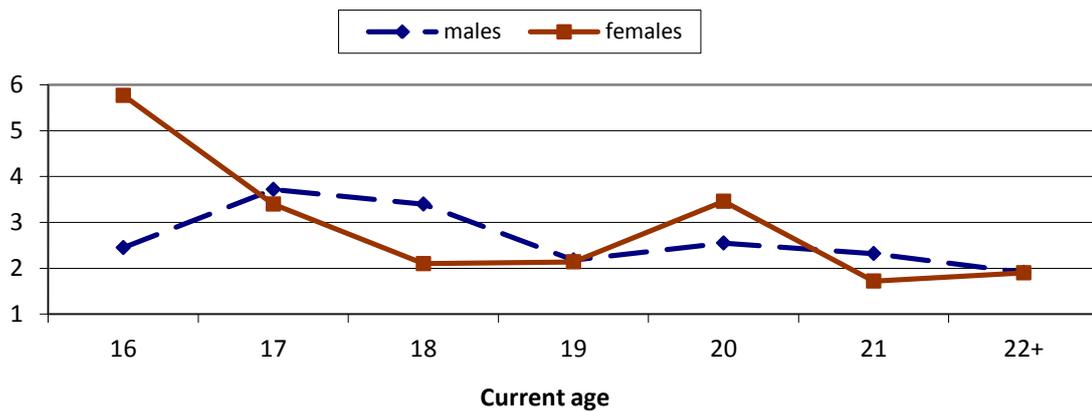
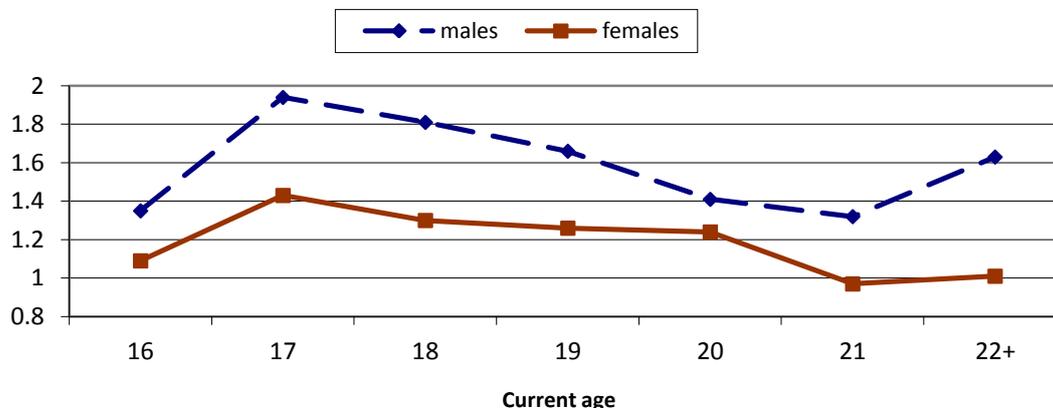


Figure 7: Average ratio between incoming and outgoing audio calls per month: according to gender and current age



In the case of text messages, even the contrary regularity holds: males of all ages receive significantly more messages than they send out (especially between 17 and 19), while females (particularly in the teen age) show a much more balanced pattern (Figure 8).

Figure 8: Average ratio between incoming and outgoing text messages per month: according to gender and current age



Unfortunately, no data about the origin of these incoming messages are available. Following the argumentations above, we may well suspect that many of them stem from females who like the unobtrusiveness of written messages (in contrast to the more disrupting, engaging (and therefore: risky) nature of oral calls. On the other hand, the data also imply that females receive most text messages from other (similarly hyperactive) females, because the rather low sending activity of males would never suffice to generate this pattern.

Table 3 provides some insights into the gender-specific driving forces underlying these divergent usage patterns: females generate higher phone traffic when they have received their phone as a present, while males show higher activity when they have bought it themselves.

As a consequence, the male predominance in audio calls is primarily generated by the large number of men who have bought their own handset, while the higher SMS activity of females is produced mainly by (also numerous) girls who have received it freely.

In a theoretical perspective, we may interpret these regularities in terms of highly generalized gender role patterns explicated above: females being more prone to be influenced by their social surroundings, and males more disposed to follow their self-selected courses of action (see 1).

Table 3: Average number of monthly calls and messages: contrasting students who have bought their cell phone or received it as a gift: according to gender

The phone has been	outgoing calls		incoming calls		outgoing SMS		incoming SMS	
	female	male	female	male	female	male	female	male
received	72	86	134	128	265	181	257	195
bought	54	98	82	142	226	206	226	230
Difference	+18	-12	+52	-14	+39	-25	+31	-35
(N =)	(548)	(796)	(538)	(797)	(534)	(797)	(565)	(768)

Table 4: Correlations between cell phone traffic and father's educational level¹⁾: according to age and gender

¹⁾ A four-value index ranging from 1 (grade school) to 4 (academic degree)

Type of cell phone use:	Males			Females		
	Current Age			Current Age		
	-18	19	20+	-18	19	20+
Sent out audio calls	-.10	-.09	-.04	-.13*	-.00	-.12
Sent out SMS	-.01	-.16*	-.05	-.14*	-.06	-.29**
Received Audio calls	-.06	-.11	-.07	-.13*	+.14	-.26**
Received SMS	+.08	-.16*	-.02	-.13*	-.01	-.31**
Total traffic	-.01	-.17*	-.04	-.16*	.01	-.34**
(N =)	(311)	(177)	(194)	(244)	(127)	(83)

* $p < .05$ ** $p < .01$

These same hypotheses are also firmly supported by the regularity that in the case of females, cell phone usage is more tightly connected to social family background than in the case of males. In more specific terms: the number of monthly audio calls and SMS girls send out or receive is highest when the educational level of their parents is consistently low, and it is at the lowest level when father or mother (or both) have academic degrees. As seen from Tables 4 and 5, these negative correlations are significant for the youngest as well as for the oldest female age cohort, while for boys, the relationships are zero in almost all cases.

Table 5: Correlations between cell phone traffic and mother's educational level¹⁾: according to age and gender

¹⁾ A four-value index ranging from 1 (grade school) to 4 (academic degree)

Type of cell phone use:	Males			Females		
	Current Age			Current Age		
	-18	19	20+	-18	19	20+
Sent out audio calls	-.09	-.07	-.06	-.07	-.09	-.15
Sent out SMS	-.09	-.02	-.08	-.14*	-.22*	-.28**
Received Audio calls	-.06	-.11	-.13	-.18**	-.13	-.22**
Received SMS	+.08	-.10	-.11	-.11	-.14	-.29**
Total traffic	-.05	-.09	-.13	-.16*	-.20*	-.31**
(N =)	(311)	(177)	(194)	(244)	(127)	(83)

* $p < .05$ ** $p < .01$

The negative relationship with family status background shows dramatically how the mobile phone has not only conquered all population segments, but even gained a particular significance in the lower classes – despite the rather high economic costs associated with it extensive usage. We may speculate that higher class incumbents produce less phone traffic because they are more likely to use computerized online channels: Email, chats, instant messaging, and the like.

But in addition to that, a particular class-specific “mother-daughter” effect seems to be at work. In fact, lower-class mothers are particularly prone to promote the cell phone usage of their female kids by giving them a mobile for free, while higher class mothers are more likely to make similar presents to their sons (Table 6).

This accords well with the well-known assumption that on lower social levels, less weight is given to the autonomy of kids (especially girls) than in the middle classes, so that there is more motivation to use the mobile as a “virtual umbilical cord”.

Table 6: Percentage of students who have received their cell phone as a gift; according to gender and mother’s education

	Mother’s level of education			
	basic school	vocat. school	higher school	academic educ.
females	63	53	51	34
males	34	28	33	44
Chi2 (sign.)	24.639 (.000)	35.398 (.000)	5.494 (.015)	1.131 (.005)
(N =)	(204)	(312)	(548)	(167)

Contrary to the expectation that the impact of social background is vanishing with mature age, women aged 20 or more show higher correlations than teenage girls. As a possible explanation, it may be assumed that parental influence has been most decisive in earlier “pioneer phases” where cell phones were still uncommon, while younger girls live in a peer culture where extensive usage is ubiquitous irrespective of any family factors.

In the following, the focus is shifted to another dimension of usage intensity: the number of different partners that have been contacted during the preceding three months. In order to filter out non-consequential single calls, the inquiry has focused only on the partners contacted several times during this period.

As seen from Figure 9, girls surpass boys by far when they are sixteen, but range below their male colleges in all more advanced age categories. While this conforms to the high male activity in the realm of audio calls (see Figure 4), it contrasts with the female’s predominance in sending SMS (Figure 5). Evidently, it might be speculated that females maintain somewhat smaller networks of partners who are contacted more frequently, while males prefer larger networks of more “superficial” (=more rarely activated) acquaintances. From Figure 10, it can be concluded that exactly this seems to be the case for most age groups. In fact, the gender gap is rising above the age of 19: with the oldest females diverging most dramatically from the same-aged males.

Figure 9: Average total number of phone partners contacted several times during the past three month: according to gender and current age

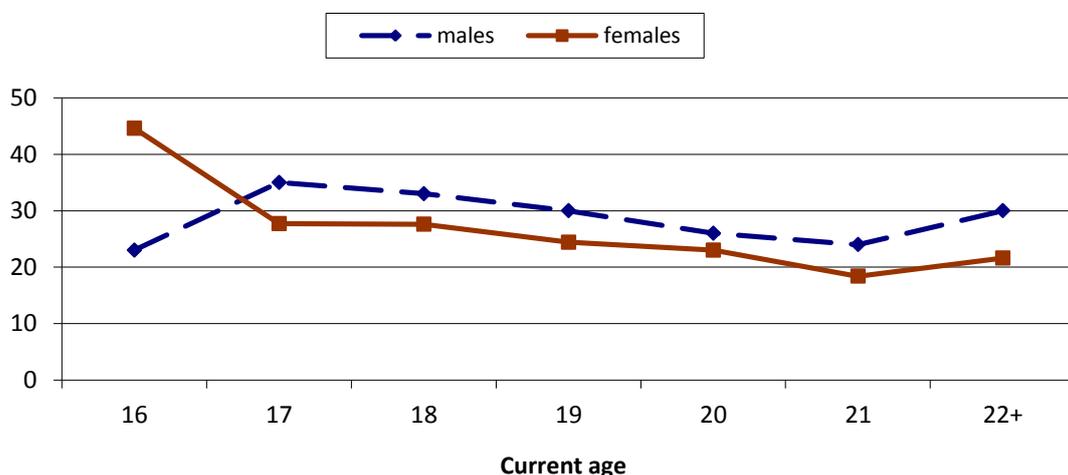
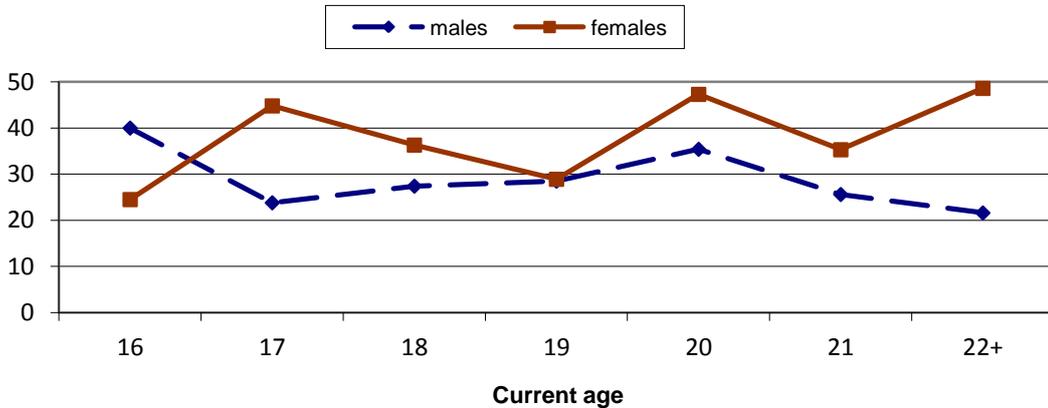
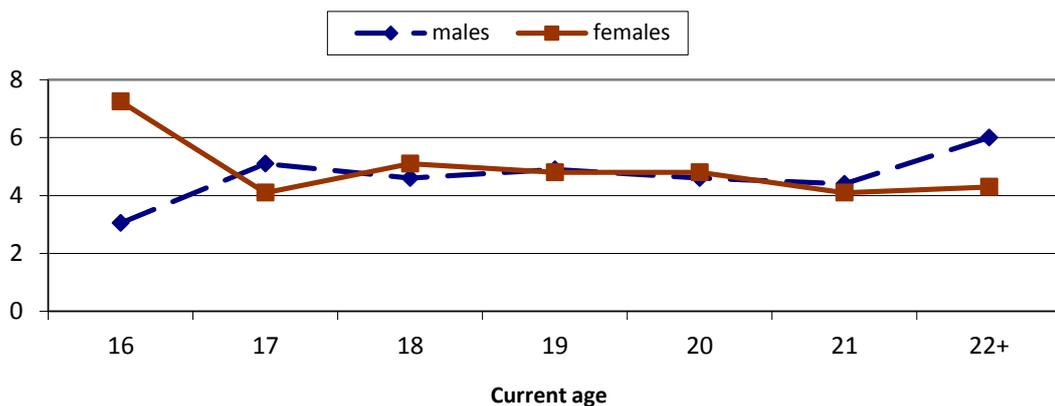


Figure 10: Average total number of calls and SMS exchanged per contacted partner during the past three month: according to gender and current age



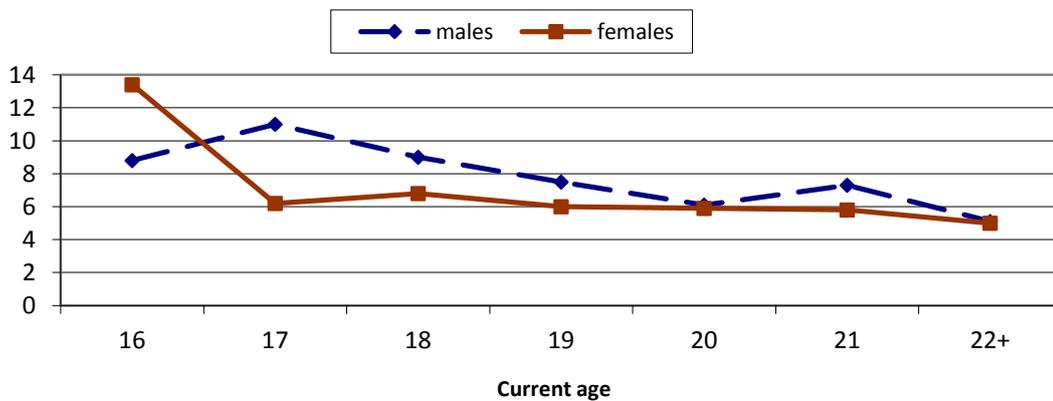
Considering our introductory considerations, it might be hypothesized that female networks centre more on family members and relatives, while males focus more on self-created relationships including occasional and transitory partners. For assessing such divergences, respondents were asked to classify their contacted partners accordingly. As seen from Figure 11, the expected gender gap is only visible in the youngest age cohort (aged 16), while intermediate cohorts contact about the same number of kin, and oldest males even surpass women significantly (by contacting on the average about six instead of four family members). Over the whole age range, then, the curves show declining family contacts for women and increasing kin relationships for males.

Figure 11: Average number of family members and relatives contacted several times during the past three months: according to gender and current age



On the other hand, Figure 12 confirms that male networks include more partners just classified as mere “acquaintances” as well as individuals just in the course of becoming more acquainted. Particularly older males then seem to use their mobile for enlarging actively their social circles, instead of just strengthening already existing bonds.

Figure 12: Average number of "acquaintances" from school and work contacted several times during the past three months: according to gender and current age



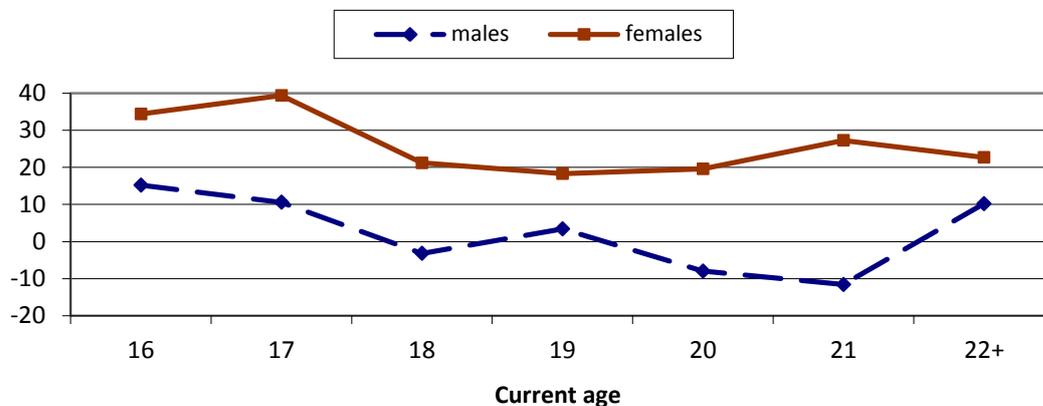
4.3 Subjective motivations and emotional commitments

A second major focus of the survey was to explore the specific motivational driving forces underlying cell phone usage, as well as the general commitment to mobile technology as a constitutive component of personal life.

First of all, the results dramatically support for the contention that females give much more weight to aspects of intimate, highly personalized communication: by expressing much stronger support than males to the statement that the mobile serves to share their own thoughts, feelings and experiences (Figure 13). This gender gap persists through all age categories and reaches its culmination point at 21, an age where males seem particularly resistant to such subjective modes of communication. Above this age, however, they seem to approximate females by becoming more open.

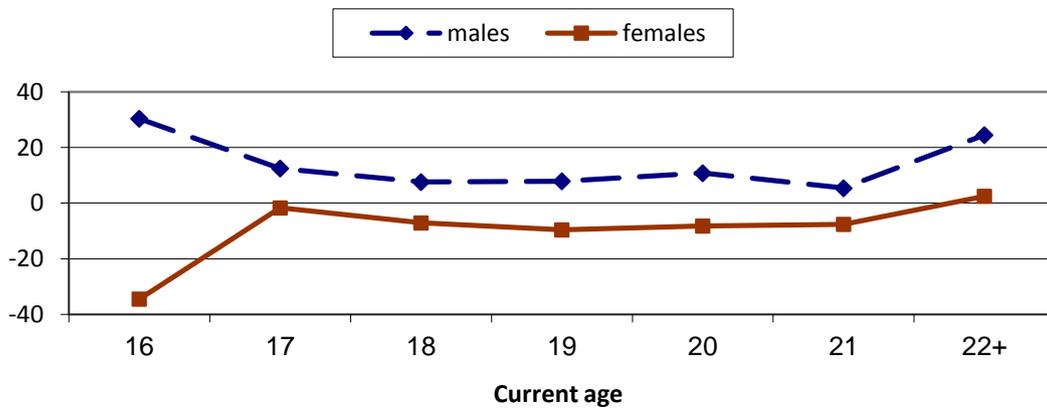
Symmetrically, males see the mobile more as tool for coordinating their different activities: a purpose that is most prominent among youngest males and least important among youngest girls (Figure 14).

Figure 13: Support given to the statement: "with the mobile, I can share my thoughts, feelings and experiences with other people": according to gender and current age*



* Five point scale ranging from -100 (total disagreement) to +100 (total agreement)

Figure 14: Support given to the statement: "the mobile helps me to coordinate my different activities": according to gender and current age*



* Five point scale ranging from -100 (total disagreement) to +100 (total agreement)

Not unexpectedly, such instrumental uses gain weight among the oldest respondents who may well have the most complex role set lead the most complicated ways of life.

In a similar vein, males attribute more importance to the statement that the mobile is instrumental for getting into contact with new people: thus underlining the previously discussed assumption that they use it more for enlarging their social networks than for just reinforcing already existing circles (Table 7).

Table 7: Importance ascribed to the statement: "I have adopted the mobile phone for meeting new people" (percentage values)

	very unimportant	somewhat unimportant	somewhat important	very important	Total	(N =)	Chi-2 (sign).
females	39	32	19	10	100	(532)	27.490
males	27	31	27	15	100	(771)	(.000)

Finally, the gender divergences between expressive and instrumental phone uses is manifested in Table 8 which shows that significantly more females than males say that they have adopted their cell phone "just for fun". In addition, it can be demonstrated that for females, "fun" is a major motivational factor causing intensive phone usage, while males seem to be somewhat less guided by such emotional factors (Table 9).

Table 8: Importance ascribed to the statement: "I have adopted the mobile phone because it makes fun" (percentage values)

	very unimportant	somewhat unimportant	somewhat important	very important	Total	(N =)	Chi-2 (sign).
females	16	30	34	20	100	(540)	12.587
males	19	35	32	14	100	(766)	(.000)

Table 9: Correlations between cell phone traffic and the support given to the statement "I use my mobile because it makes fun": according to gender

	outgoing calls	incoming calls	outgoing SMS	incoming SMS	total traffic	(N =)
females	.13**	.13**	.35**	.30**	.31**	(542)
males	.09**	.09**	.24**	.22**	.21**	(810)

* $p < .05$ ** $p < .01$

Contradicting this “hedonistic” picture, however, there is one aspect where women give much preference to instrumental considerations security concerns. Thus, more than 70 percent of all female users (compared to about 50% males) find it “very important” that the mobile could eventually be helpful in rare cases of emergency (Table 10).

Table 10: Importance ascribed to the statement: “I have adopted the mobile phone for security reasons and cases of emergency” (percentage values)

	very unimportant	somewhat unimportant	somewhat important	very important	Total	(N =)	Chi-2 (sign).
females	1	4	23	72	100	(541)	58.925
males	4	11	33	52	100	(781)	(.000)

It is a common characteristic of all communication media that behavioral usage patterns usually don’t just mirror subjective motivations and commitments, because their adoption is mainly determined by social norms and expectations (e. g. by the obligation to be reachable and to answer incoming mail or calls). Thus, the astonishing consensus in sending and receiving mobile audio calls and SMS masks the fact that males and females differ considerably in their subjective commitment to the new technology: e. g. in their disposition to become “addicted” and to assimilate the new gadget as an indispensable ingredient of their personal existence.

While computers and many other, more conventional technologies (like motorcycles) seem to have their most committed enthusiasts among males, mobile phones may well be different because they support so much fundamentally female needs of social communication.

Astonishingly, our data reveal that most respondents have a rather distanced relationship to their handsets, but that women in fact are somewhat more prone than men to maintain intensive subjective commitments. Thus, almost 70% of the men disagree with the statement that “the mobile is part of my style of life” (Table 11), while almost half of the women support it in at least moderate ways. This gender gap is most pronounced within the youngest teenage groups (aged 18 or less), but unexpectedly, it seems to gain strength again in young adults (aged 20 or more).

Table 11: Percent of respondents with different opinions on statement “The mobile belongs to my style of life”: according to gender and age

Opinion:	Age:18 or less		Age: 19		Age: 20 or more	
	female	male	female	male	female	male

agree totally	17	9	10	7	16	7
agree partially	31	21	27	27	32	26
disagree partially	31	38	36	37	25	31
disagree totally	21	32	27	29	27	36
Total	100%	100%	100%	100%	100%	100%
Chi2 (sign.)	24.557 (.000)		1.285 (.733)		9.553 (.023)	

In addition, women show stronger positive correlations between this aspect of subjective acceptance and factual phone usage than males. Particularly, they send out much larger numbers of text messages when they have assimilated the mobile technology as an essential aspect of personal life. (Table 12)

Table 12: Correlations between cell phone traffic and the support given to the statement “the mobile is part of my style of life”: according to gender

	outgoing calls	incoming calls	outgoing SMS	incoming SMS	total traffic	(N =)
females	.26**	.28**	.39**	.35*	.41**	(542)
males	.22**	.20**	.26**	.25**	.29**	(810)

* $p < .05$ ** $p < .01$

Similar divergences are evoked by the question whether current personal life would be unimaginable without a mobile phone. Men of all age groups are much more likely than women to refute such a notion categorically, while more women than males give it unconditioned support (Table 13). In a striking parallel to the “style of life” question, gender gaps are most pronounced in the youngest and oldest cohorts, while they almost vanish in the intermediate group (aged 19). Again, girls seem to be more prone than boys to translate positive inner attitudes into high levels of behavioral activity, especially in the realm of text messages (Table 14). Thus, we may tentatively conclude that in the case of males, phone usage is more conditioned by extrinsic determinants like social norms and expectations as well as by considerations of practical expediency, while females are more driven by intrinsic emotional factors.

Table 13: Percent of respondents with different opinions on statement “I cannot imagine life without the mobile”: according to gender and age

Opinion:	Age:18 or less		Age: 19		Age: 20 or more	
	female	male	female	male	female	male
agree totally	27	15	15	14	25	9
agree partially	29	22	31	26	35	28
disagree partially	19	25	28	27	22	27
disagree totally	25	37	26	34	18	37

Total	100%	100%	100%	100%	100%	100%
Chi2 (sign.)	25.531 (.000)		3.142 (.370)		23.964 (.000)	

Table 14: Correlations between total cell phone traffic² and the support given to the statement “I cannot image to live without a mobile phone”: according to gender

	outgoing calls	incoming calls	outgoing SMS	incoming SMS	total traffic	(N =)
females	.25**	.20**	.33**	.31*	.34**	(542)
males	.16**	.15**	.22**	.21**	.23**	(810)

* $p < .05$ ** $p < .01$

5. Conclusions

Like in other Western countries where research studies have been conducted, mobile communication technology has penetrated the daily life of almost all young Swiss apprentices (born between 1980 and 1987) – males and females alike.

While teenage boys are somewhat slower than girls to adopt the cell phone universally, they then tend to use it on the same scale (e. g. by producing the same monthly bills). Apart from this basic consensus in overall usage intensity, however, several gender divergences related to the ways of adoption, the modes of usage and the driving motivations of phone activities stand out.

First, some data support the notion that female phone usage is more strongly conditioned by exogenous social factors. Thus, girls are more likely than boys to have received their phone as a present, and their usage intensity is more tightly determined by family background variables (=parental education).

Secondly, girls (especially of lower age) are much more active in exchanging text messages, why boys (particularly of older age) are emitting and receiving more audio calls. This accords well with previous findings which demonstrated that females were more prone to exploit the mobile’s potential for written communication (e. g. transmitting more elaborate texts).

Third, boys tend to spread their phone calls over a larger number of partners, and to use their mobile for enlarging their networks (by contacting new individuals with whom a more intimate acquaintanceship is sought). Girls seem to restrict their communication to a smaller number of (more frequently contacted) partners. However, the number of family members and relatives within their networks is about the same.

Fourth, the results support the widespread assumption that females see the phone mainly as a medium for subjective personal communication, while boys emphasize more instrumental functions (e. g. of increasing personal mobility and role coordination). However, there is one instrumental aspect to which women give more weight than males: security concerns.

Fifth, finally, significantly more women than men have assimilated the mobile phone as a central component of their personal existence: by integrating it into their lifestyle or by becoming so de-

² The sum total of outgoing and incoming audio calls and SMS per month.

pendent on it that life without it has become unimaginable. More than that: such emotional commitments seem also to be more consequential, because they determine the intensity of cell phone usage (especially for text messages) more than in the case of men. Disregarding such gender differences, the data support the conclusion that while the cell phone has easily won total victory on the *behavioral* level of everyday usage, it has nevertheless not (yet) become an item to which much *attitudinal* commitment is attached.

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