

# ***Mobile Communication Among German Youth***

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## **Abstract**

How do 12 to 18 year-old German teenagers use cell phones at home, at school, and in public places? In 2003, we developed a 137-item-questionnaire and collected data from n=483 German high school students (60% girls, 40% boys; 83% mobile phone users, 17% non-users) in order to describe patterns, motivations, and evaluations of teenage cell phone usage. The study revealed that love partners and peers were important contact partners for the teenagers. SMS-based messaging especially served as a flirt and love medium. To address German teenagers as a "Generation Txt" seems inappropriate: Teenage cell phone users most often had parents who themselves used cell phones. Parent-child mobile contacts were widespread, while only seldom did conflicts with parents or teachers arise over the teenagers' mobile phone usage. Not every teenager in the non-user group hoped to become a user. Instead, some of the non-users were outspoken cell phone critics. Several gender differences were visible with girls stressing the emotional and security value of the cell phone, while boys were more interested in technical features of mobile communication. The majority of the teen mobile phone users in our study were at the same time regular (several times a week) conventional telephone users (89%) and regular internet users (56%). Perspectives for further research are discussed below.

## **1 Introduction**

Nowadays, mobile communication as a school subject is a reality: With the school project "Mobile Funk", a new nation-wide initiative for 5<sup>th</sup> to 8<sup>th</sup> graders began in Germany. The project is intended to make students capable of using mobile phones in a responsible and conscious manner.<sup>1</sup> Among German youth, cell phone usage has been strongly established.<sup>2</sup> This presents many chances as well as risks: For example, the possession of a cell phone is very much connected to remaining in contact with friends, and to knowing about what is happening. At the same time, the chance this provides for teenage cell phone users also represents a risk of social exclusion for non-users.<sup>3</sup>

This investigation of cell phone usage among German youth is concentrated on: a) An assessment of cell phone usage among both users and non-users, b) Gender differences in cell phone use, c) Contact partners in mobile communication, and d) Cell phone usage at school.

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<sup>1</sup> o.A. (2004). „Mobilfunk im Klassenzimmer diskutieren.“ [Online Document] URL <http://www.schulprojekt-mobilfunk.de> [abgerufen am 14.04.2004]

<sup>2</sup> o.A. (2004). Handy-Nutzer werden immer jünger. [Online Document] URL [http://www.institut-fuer-jugendforschung.de/german/pdf/04\\_PM\\_Handynutzung.pdf](http://www.institut-fuer-jugendforschung.de/german/pdf/04_PM_Handynutzung.pdf)

<sup>3</sup> Ling, R. / Yttri, B. (2002). Hyper-coordination via mobile phones in Norway. In J.E. Katz / M. Aakhus (Eds.), *Perpetual Contact. Mobile Communication, Private Talk, Public Performance* (pp. 139-169). Cambridge: Cambridge University Press.

## **2 Methods**

### **2.1 Questionnaire**

A full-standardized questionnaire is employed as an instrument of data collection. It contains 137 items divided into 22 categories: cell phone ownership, cell phone device, costs relating to the cell phone, cell phone contacts, cell phones at school, cell phones in everyday life, cell phone calls, SMS messages, language usage in relation to cell phones, SMS and time, SMS and location, SMS and love, SMS and moods, SMS advertisements, SMS content, further cell phone functions, cell phones as a disruptive factor, cell phones as a status symbol, cell phone addiction, cell phones in social environments, cell phone knowledge, and statistical information. Furthermore, the questionnaire addresses multiple dimensions of the usage and effects of mobile communication on German youth. A pre-test was used to assess the questionnaire.

### **2.2 Sampling and Data Collection**

A sample of 7th to 12th grade students was carried out. In 2003, written group interviews with student group associations were carried out in middle schools and high schools in East and West Germany. All participants of the interview had one school hour to fill out the questionnaires.

### **2.3 Participants**

The convenience sample includes  $N = 483$  youth ranging from 12 to 18 years old, with the average age being  $M=15.02$  years old ( $SD=1.59$ ). 60% of the interviewed students were female, the other 40% were male. In total, 83% of the respondents possessed one or more cell phones. 17% of the students interviewed owned no cell phone. Some of the youth used someone else's cell phone, meaning that they shared a device with other members of their family. On average, the students made 5.49 calls a week on their cell phones. In this same time period, they wrote on average 10.09 SMS's ( $SD=15.25$ ) with their cell phones ( $SD=9.18$ ).

## **3 Results**

### **3.1 Cell Phone Attitudes of Users and Non-Users**

There are diverse reasons for not using cell phones: One reason not to use a cell phone (i.e. lack of money, parent prohibition) can easily be differentiated from a conscious non-use of cell phones (negative experiences, excessive indebtedness, etc.). Furthermore, we can assume that a small minority of those who refuse to use cell phones have done so since the beginning.

As the cell phone becomes increasingly more important for the self-portrayal, communication and integration among youth, non-cell phone users run the risk of being converted into

outsiders.<sup>4</sup> We can assume that non-cell phone users qualify the social importance of cell phone communication to be lower, and that they are more disturbed by public cell phone calls (perhaps because cell phone usage directly confronts them with their minority status).

**H1.1: Non-cell phone users qualify the change brought about in communication by cell phone usage as more negative than cell phone users do.**

This hypothesis can be confirmed by the kxl-Chi-Quadrant-Test ( $\chi^2=20,62$ ;  $df=2$ ;  $p<.001$ ): 41% of non-users determined that cell phones produced a deterioration in their communication, 43% determined it had improved. By cell phone users only 16% thought there had been a deterioration, while 67% believed it had improved. 16% to 17% of both users and non-users considered the quality of communication through cell phone usage to be unchanged.

**H1.2: Non-cell phone users find public cell phone use to be more of a disturbance than cell phone users do. Among non-cell phone users, those that reject the use of cell phones feel more strongly disturbed by cell phone use as do other non-cell phone users.**

In concordance with the hypothesis, t-Tests for independent sampling could demonstrate that cell phone users ( $M=1.59$ ;  $SD=0.65$ ) were in general less bothered by cell phones as non-users ( $M=2.27$ ;  $SD=1.13$ ) (Scale from 1=never to 5=quite often/always). Likewise, cell phone users were significantly less bothered by cell phone use by their schoolmates in class, by people in public places, any by their friends while in their presence.

Furthermore, it is illustrative that among non-cell phone users, those that reject cell-phone use ( $M=2.27$ ;  $SD=1.18$ ) find cell phones to be more disruptive than people who are not yet cell phone users ( $M=2.02$ ;  $SD=0.85$ ).

## **3.2 Gender Differences in Cell Phone Usage**

Society expects both men and women to behave in a manner that is considered to be typical or appropriate, and which comply with gender-specific societal roles.<sup>5</sup> Among other aspects, this means that the areas of feeling and communication are attributed to women, whereas technology is considered to be a man's domain. Cell phone communication deals with the social and technical dimensions, which we can assume are appropriated in a differentiated, gender-specific manner by both teenage boys and girls. Seen from a perspective of development psychology, a gendered appropriation of the cell phone should be more pronounced during adolescence than in other life phases.

**H2.1: Teenage girls communicate more intensely over cell phones than boys do.**

Earlier studies demonstrate that for teenage girls (beginning at a certain age), media such as the telephone, e-mails and chat groups are more important to them than they are to teenage boys.<sup>6</sup> They exchange, send, and receive<sup>7</sup> more information and details through SMS's<sup>8</sup> as do

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<sup>4</sup> Döring, N. (in press). Psychologische Aspekte der Mobilkommunikation. In J.R. Höflich / J. Gebhardt (Eds.), *Mobile Kommunikation: Perspektiven und Forschungsfelder*. Berlin: Peter Lang

<sup>5</sup> Wood, J.T. (2003). *Communication, Gender, and Culture*. 5. Auflage. Belmont: Wadsworth / Thomson Learning.

<sup>6</sup> Suoninen, A. (2001). The Role of Media in Peer Group Relations. In S. Livingstone / M. Bovill (Eds.), *Children and Their Changing Media Environment. A European Comparative Study* (pp. 201-220). Mahwah: Lawrence Erlbaum Associates.

boys of the same age group. Furthermore, teenage girls carry out more SMS conversations and on average employ approximately 160 characters in a short message.<sup>9</sup>

This gender-specific differentiation could be illustratively and overwhelmingly confirmed: In all dimensions, teenage girls demonstrated a greater intensity of communication (see Table 1).

	Girls M (SD)	Boys M (SD)	t-Test p
Cell phone calls over the last week	5.52 (9.51)	5.10 (6.82)	.66
SMS messages over the last week	10.86 (16.09)	8.56 (12.31)	.16
SMS's in 2-3 parts*	2.69 (1.71)	2.22 (1.46)	.01
SMS conversations*	3.88 (1.96)	3.00 (1.94)	.00
People in cell phone address book	67.90 (42.86)	49.86 (37.03)	.00
Number of people with whom regular contact is maintained	9.23 (12.67)	6.56 (7.28)	.02

Table 1: Intensity of cell phone usage by teenage girls and boys \*(Scale: 7: daily, 6: several times a week, 5: once a week 4: two to three times a month, 3: once a month, 2: seldom, 1: never)

## H2.2: Teenage girls communicate in a more emotional manner over cell phones than boys do.

Preliminary evidence indicate that young girls are more sensitive to personal and third person sensitivities and feelings, while young boys write in a more matter-of-fact manner.<sup>10</sup>

Our data confirms the hypothesis: The girls (M=2.99; SD=1.45) were significantly more generous in their SMS-based declarations of friendship and love as were the boys (M=2.40; SD=1.36). Significantly more girls (M=2.95; SD=1.44) than boys (M=2.12; SD=1.20) archived especially pleasant SMS messages from their friends or partners. Likewise, teenage girls (M=2.53; SD=1.09) offered and received significantly more SMS-based emotional support when they had problems than did teenage boys (M=1.94; SD=0.94); (Scale 1=never to 5=quite often/always).

## H2.3: Teenage boys concern themselves more with mobile communication technology than girls do.

In accordance with gender-specific roles, many teenage boys are more interested in technology than are teenage girls<sup>11</sup>. Another study demonstrated accordingly that cell phone

<sup>7</sup> Skog, B. (2002). Mobiles and the Norwegian teen: identity, gender and class. In J.E. Katz / M. Aakhus (Eds.), *Perpetual Contact. Mobile Communication, Private Talk, Public Performance* (pp. 255 – 273). Cambridge: Cambridge University Press.

<sup>8</sup> Kasesniemi, E. / Rautiainen, P. (2002). Mobile culture of children and teenagers in Finland. In J.E. Katz / M. Aakhus (Eds.), *Perpetual Contact. Mobile Communication, Private Talk, Public Performance* (pp. 170-192). Cambridge: Cambridge University Press.

<sup>9</sup> Höflich, J.R. / Rössler, P. (2000). Jugendliche und SMS. *Gebrauchsweisen und Motive. Zusammenfassung der ersten Ergebnisse. Manuskript.*

<sup>10</sup> Höflich, J.R. / Rössler, P. (2000). Jugendliche und SMS. *Gebrauchsweisen und Motive. Zusammenfassung der ersten Ergebnisse. Manuskript.*

Kasesniemi, E. / Rautiainen, P. (2002). Mobile culture of children and teenagers in Finland. In J.E. Katz / M. Aakhus (Eds.), *Perpetual Contact. Mobile Communication, Private Talk, Public Performance* (pp. 170-192). Cambridge: Cambridge University Press.

<sup>11</sup> Lemish, D. / Liebes, T. / Seidmann, V. (2001). Gendered Media Meanings and Uses. In S. Livingstone / M. Bovill (Eds.), *Children and Their Changing Media Environment. A European Comparative Study* (pp. 263-282). Mahwah: Lawrence Erlbaum Associates.

brands and technical functions of the phones are more important for teenage boys than for teenage girls, who pay more attention to color and design.<sup>12</sup>

In general, it is evident that existing gender-specific roles are preserved: In contrast to the girls (M=2.34; SD=0.75), the interviewed boys (M=2.54; SD=0.97) placed significantly more emphasis on the fact that their cell phones possess the latest technology (Scale: 1=not at all to 4=very important). Likewise, boys are much more likely to play around with the various technical aspects of their cell phones (M=2.58; SD=1.11) in order to better understand the technology (girls: M=2.39; SD=1.03; Scale: 1=never to 5=quite often/always).

### **3.3 Contact Partners in Mobile Communication**

One of the most important development tasks during adolescence is the emancipation from one's family and the establishment of one's personal life.<sup>13</sup> In this sense, same age peers have an increasing importance in the life of the youth.<sup>14</sup> Nevertheless, parents continue to be important, since the areas in which parents and peers have influence vary.<sup>15</sup> Cell phone usage promotes these developments by providing more autonomy for young people and strengthening the relationship to their peers.<sup>16</sup>

#### **H3.1: The most important cell phone based communication partners of teenagers are their peers.**

Earlier studies show that Swiss youth have more mobile communication with their "colleagues"<sup>17</sup>, and in Germany the senders and receivers of SMS messages are predominately friends and partners. Parents and relatives, on the other hand, play a secondary role as SMS communication partners.<sup>18</sup> Both girls and boys like to be available to their parents or peers via cell phones: Nevertheless, it is more important for them to be available to their contemporaries.<sup>19</sup>

The assumption that the importance of parents as communication partners is lesser than that of their peers could not be confirmed by the evaluated data, since teenagers communicate per cell phone much more often with their parents than with friends and acquaintances (see Table 2). On the other hand, teenagers overwhelmingly maintain SMS contact with their peers.

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<sup>12</sup> Skog, B. (2002). Mobiles and the Norwegian teen: identity, gender and class. In J.E. Katz / M. Aakhus (Eds.), *Perpetual Contact. Mobile Communication, Private Talk, Public Performance* (pp. 255–273). Cambridge: Cambridge University Press.

<sup>13</sup> Oerter, R. / Dreher, E. (2002). Jugendalter. In R. Oerter / L. Montada (Hrsg.), *Entwicklungspsychologie. 5., vollständig überarbeitete Auflage* (S.258-318). Weinheim, Basel, Berlin: Beltz Verlag.

<sup>14</sup> Zimbardo, P.G. / Gerrig, R.J. (1999). *Psychologie. 7. Auflage*. Berlin, Heidelberg: Springer-Verlag.

<sup>15</sup> Schmidt-Denter, U. (1996). *Soziale Entwicklung. Ein Lehrbuch über soziale Beziehungen im Laufe des menschlichen Lebens. 3., korrigierte und aktualisierte Auflage*. Weinheim: Beltz Psychologie Verlags Union.

<sup>16</sup> Döring, N. (in Druck). *Psychologische Aspekte der Mobilkommunikation*. In J.R. Höflich / J. Gebhardt (Hrsg.), *Mobile Kommunikation: Perspektiven und Forschungsfelder*. Berlin: Peter Lang

<sup>17</sup> Kunz Heim, D. (2003). *Sozialisationsfunktionen des Handys*. In D. Süß / A. Schlienger / D. Kunz Heim / M. Basler / S. Böhi / D. Frischknecht (Eds.), *Jugendliche und Medien. Merkmale des Medienalltags, unter besonderer Berücksichtigung der Mobilkommunikation* (pp. 77-106). Zürich, Aarau.

<sup>18</sup> Höflich, J.R. / Rössler, P. (2000). *Jugendliche und SMS. Gebrauchsweisen und Motive. Zusammenfassung der ersten Ergebnisse*. Manuskript.

<sup>19</sup> Feldhaus, M. (2003). *Die Folgen von Mobilkommunikation für die Privatheit. Empirische Ergebnisse zur Beurteilung ubiquitärer Erreichbarkeit in der Familie. Medien & Kommunikationswissenschaft (Hans-Bredow-Institut) Heft 1/2003*.

Contact Partners in Mobile Communication Usage	SMS M (SD)	Phone Calls M (SD)
Partner	5,68 (1,73)	4,61 (2,13)
Best Friend	4,52 (1,82)	3,42 (1,96)
Friends/Acquaintances	4,10 (1,92)	3,37 (1,86)
Parents	2,54 (1,64)	4,01 (1,78)

Table 2: Cell Phone Contact Partners (Scale: 7: daily, 6: several times a week, 5: once a week 4: two to three times a month, 3: once a month, 2: seldom, 1: never)

### H3.2: As the age of the teenagers increases, the importance of the parents as cell phone based communication partners declines.

For the youth of all age groups that took part in this investigation, parents were the second most important communication partner for cell phone calls (see H3.1), which on average took place 2-3 times a month. As can be seen in Figure 1, the frequency of parent-child cell phone calls continuously increase for youth between 13 and 15 years of age. But the amount of cell phone conversations sinks thereafter. H3.2 could not be confirmed. The intensity of SMS messages sent to parents lies below the intensity of cell phone calls, whereby age progression is parallel (see Chart 1). Teenagers from 15 to 17 years of age communicate via cell phone with their parents much more frequently, most likely because they increasingly carry out activities outside of the house. This is often times due to the desire of the parents.<sup>20</sup>

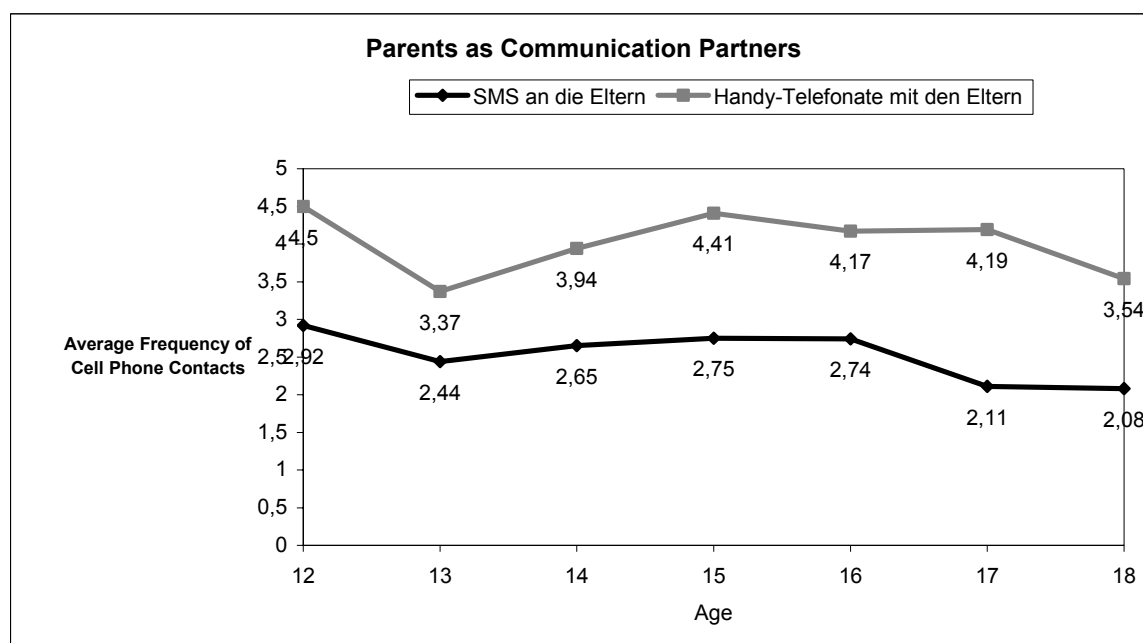


Chart 1. Parents as Cell Phone Contact Partners (Scale: 7: daily, 6: several times a week, 5: once a week 4: two to three times a month, 3: once a month, 2: seldom, 1: never)

<sup>20</sup> Kunz Heim, D. (2003). Sozialisationsfunktionen des Handys. In D. Süss / A. Schlienger / D. Kunz Heim / M. Basler / S. Böhi / D. Frischknecht (Hrsg.), Jugendliche und Medien. Merkmale des Medienalltags, unter besonderer Berücksichtigung der Mobilkommunikation (S.77-106). Zürich, Aarau.

### **H3.3: The cell phone is rarely an area of conflict between parents and children.**

In previous studies, Swiss youth informed of relatively few conflicts with their parents regarding cell phones. Most often conflicts were caused by money.<sup>21</sup>

The expenditures of the interviewed youth confirm this hypothesis. Thus, 81% of the interviewed cell phone users reported that they were never or seldom criticized by their parents for their cell phone usage.

As previously shown in hypothesis 3.1 and 3.2, teenagers communicate often with their parents via cell phone, who in 55% of the cases finance all or part of the resulting costs. Since the majority of parents were also cell phone users (only 9% did not possess a cell phone, 39% were frequent users), it doesn't seem appropriate to qualify today's generation as "Generation Txt", which supposedly is in conflict with older generations in terms of media usage.

## **3.4 Cell Phone Use at School**

### **H4.1: Cell phones do not represent a disturbance factor at school, meaning that conflicts with teachers, prohibition of cell phones, and cell phone-based cheating are a seldom occurrence.**

Cell phones allow their users the possibility to be constantly available, independent of their location. In order to avoid school disturbances, cell phones can be turned off or put into vibration mode, something which students often times take advantage of in the classroom.<sup>22</sup>

Although on average the interviewed students quite often ( $M=3.87$ ;  $SD=1.42$ ; Scale: 1=never to 5=quite often/always) had their cell phones with them at school, and even left them turned on ( $M=3.28$ ;  $SD=1.68$ ), they used them only occasionally: seldom during the breaks ( $M=2.06$ ;  $SD=0.96$ ) and never to seldom in the classroom ( $M=1.59$ ;  $SD=0.85$ ). Overall, the students indicated that they almost never had problems with their teachers because of cell phones ( $M=1.18$ ;  $SD=0.50$ ), and that they also almost never used their cell phones to cheat in class ( $M=1.04$ ;  $SD=0.29$ ). Thus, at least as seen by the students, we cannot talk of cell phones as a disturbance factor at school.

## **4 Discussion**

The present investigations demonstrated that young cell-phone users are less bothered by public cell phone usage than non-users, and that non-users are less bothered by public cell phone usage as those who reject cell phones. Furthermore, it could be seen that the girls interviewed made more cell phone calls and sent more SMS messages than their male counterparts. In accordance with gender-specific roles, teenage girls used the cell phones more frequently for the expression of feelings, while the technical aspect was more interesting for boys.

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<sup>21</sup> Kunz Heim, D. (2003). Sozialisationsfunktionen des Handys. In D. Süss / A. Schlienger / D. Kunz Heim / M. Basler / S. Böhi / D. Frischknecht (Eds.), *Jugendliche und Medien. Merkmale des Medienalltags, unter besonderer Berücksichtigung der Mobilkommunikation* (pp. 77-106). Zürich, Aarau.

<sup>22</sup> Ling, R. / Yttri, B. (2002). Hyper-coordination via mobile phones in Norway. In J.E. Katz / M. Aakhus (Eds.), *Perpetual Contact. Mobile Communication, Private Talk, Public Performance* (pp. 139-169). Cambridge: Cambridge University Press.

The most important communication partner in teenager cell phone use was their boyfriend or girlfriend. Alongside their peers, parents also played an important role as communication partners. Thus, the cell phone was rarely an area of conflict between parents and children. Likewise, in the systematic interviews the cell phone appeared to not be a major factor of disturbance at school.

The next steps in the investigation will be to analyze the questionnaire variables of the German sampling in terms of the hypothesis, and then make to an intercultural comparison. The same questionnaire was also presented to youth from Poland, Peru and Indonesia.