

# Mobile communications vis-à-vis teen emancipation, peer group integration and deviance<sup>1</sup>

Rich Ling

Telenor R&D

## Abstract

SMS and mobile voice telephony have become a common part of the teen experience in Norway. Almost 19 out of 20 teens own a mobile telephone. In addition, Norwegian teens are frequent users of mobile voice telephony and, in particular SMS. Access to mobile communication plays into the way teens experience emancipation from their parents, their integration into the peer group and the resulting boundary testing issues. In addition, the device plays into more illicit behaviors for a small portion of teens. This paper uses the survey data gathered from a random selection of 11 928 teens in Norwegian Statistical Research's study *Ung i Norge* (Young in Norway). The data was collected in February of 2002. The data material provides one with broad insight into many facets of teen's lives. The analysis here indicates that SMS and mobile voice telephony play into the adolescent experience in complex ways. The analysis indicates that these forms of mobile communication facilitate emancipation assist in peer group bonding, and, in a small number of cases, play into more illicit activities. There is, however a special role in terms of boundary testing behaviors that is, in many ways, an integral part of emancipation.

## 1 Introduction

The mobile telephone – often in the form of SMS – provides teens with a rich social life. It is used to coordinate activities and hold peer groups together. It is used as a symbolic umbilical cord to connect teens with their parents and it is a device through which teen's emancipation is mediated. Indeed, teens' adoption of the mobile telephone – and their intense use of SMS – is one of the surprises surrounding the technology. Reports from Japan (Hashimoto 2002), Finland (Kasesniemi and Rautiainen 2002), the general European scene (Mante-Meijer and al. 2001), the UK (Harper 2003) the Philippines (Ellwood-Clayton 2003) and of course Norway (Ling 2000; Ling 2001b; Ling and Helmersen 2000; Ling and Yttri 2003) all point in this direction.

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Emancipation, peer acceptance and the testing of various behaviors are a complex of activities that characterize adolescence. During adolescence, there is a strong motivation for teens to establish themselves as independent social actors who are outside the sphere of their parents. Indeed, emancipation from one's parents is one of the central issues for teens. The dynamic nature of modern society means that teens will emerge into a society that is at least somewhat different than that of their parents. Thus, the approach one takes to emancipation will be different from that of previous generations. This is simply because – unlike the situation in traditional societies – the situation changes from generation to generation. The skills needed, the technologies used and the educational background upon which one relies change and develop across generations. Because of this, the teen is an active agent in shaping his or her own socialization (Glaser and Strauss 1971, 57 - 88).

During this period, the peer group plays a central role in this transition. It provides the teen with a group in which he or she can help to decide on activities and where he or she can take part in establishing the fashion and mode of the group. The peer group also helps one to work out a relationship to the various facets of adult life. This includes issues such as sexuality, forms of consumption, relationship to authority and degrees of social/normative deviance. Where the parents can provide the teen with an ordered sense of life, the peer group provides the teen with a sphere in which he or she can assert control and participate more fully in decision making (Giordano 1995; Harter 1990; see also Savin-Williams and Berndt 1990; Youniss 1980; Youniss and Smollar 1985).

The peer group provides teens with a sphere of life wherein they can experience reciprocal self-disclosure and emotional support outside family units. According to Fine, the peer group is protective of its members and it is active in the development of an ideoculture, that is, a whole system of nicknames, jokes, styles of clothing, songs, artifacts etc. (1987, 126).

While establishing a social profile often means simply interacting with others, it can also mean that one is increasingly drawn into a quasi-adult world. Indeed, there is a sense that teens need to test boundaries. They need to find the boundary between “appropriate and inappropriate” behaviors in conducting their lives. Parents can be a useful influence here, but their peers are also central in this negotiation. The peer group provides a context in which teens can try out various behaviors associated with the adult world. As noted above these can include decision making, compromise and conflict resolution. In addition, the peer group provides teens with a context wherein he or she can test various boundaries. It is often in the peer group that people first experience the use of alcohol and gains insight into sexuality. It is in the peer group that interaction with authorities – often in the form of teachers or school administrators – are either prepared for or are discussed after the fact. It is in the peer group that these interactions are set into a broader understanding of how teens treat and are treated by authority figures. Thus, there is a gray zone there between a rich social life and the engagement in illicit activities. The boundaries between acceptable socializing and mob actions are not always clearly defined.

The mobile telephone can play into the mixture. It lowers the threshold for social interaction and unlike the traditional house telephone, teens control their own communication channel. They can interact with others when and where it is convenient. There is no need to ask permission to use the phone nor is there the embarrassment of being overheard by others. This is a boon for teens since it allows direct and personally controlled access to their peer group. The negative side is that it is difficult for them to control the way that information is spread.

*Geir, (15): I don't understand why people dare to have parties anymore because if the rumor gets out [via mobile telephones] you get a lot of people who steal and break stuff like that.<sup>2</sup>*

Gier's plight illustrates the dilemma for teens. On the one hand, there is a great premium placed on organizing social interactions that allow teens to come together and establish a social sphere. At the same time, the boundary testing of the peer group is executed with an uneven hand.

The social events organized by teens can range from innocent parties where friends simply want to be together to slightly more illicit interactions that include testing out their quasi-adult status through drinking and sexual interactions. They can also include blatantly illegal forms of behavior. Again, qualitative material points to the ways in which the mobile telephone – and its ability to quickly distribute information – means that a situation can spin out of control.

*Interviewer: There are not only positive things about mobile telephony. I would like to ask you what are the problems?*

*Rita: (18): I have a good example. For example if there is trouble [i.e. fighting] and such it will be a bigger problem because of that. For example, if there is trouble you call to all your friends. That can be dangerous.*

*Erik: (14): That doesn't have to be dangerous.*

*Rita: Of course, because then they contact the others and it gets bigger you know. It is obvious that if there are 100 instead of two.*

*Erik: But it is good if there are 20 guys who want to beat you up.*

*Rita: But the problem is bigger you know.*

This exchange points to the tension in teens' lives. Teens want to move out of their parents' shadows and develop their own social profile while, at the same time, it is not always easy to control the situation and to see the potential issues involved in their actions.

The decisions teens make and the council they receive from peers may help to provide them with the ballast they need later in life. However, there is also a chance that the situation will tip over to more serious types of deviance. The mobile telephone is becoming a part of this situation. Thus, it is important to see how its use covaries with other issues.

The analysis here looks into several dimensions in the greening of Norwegian teens. Specifically, it examines how mobile voice telephony and SMS play into the complex process of emancipation. This process can include a distancing from one's parents, tighter integration into the peer group, boundary testing issues such as drinking, sexuality and interaction with authorities, and in some cases, participation in clearly illicit activities such as stealing, fighting, and narcotic use. The emancipation process, peer acceptance and boundary testing is a well-rehearsed theme in the sociological (Among many others Fine 1981; Fine 1987; Glaser and Strauss 1971; Lynne 2000) and the psychological literature (see for example Rubin 1985; Schneider and Stevenson 1999). The issue of teen criminality is also an area of intense investigation (Elliott, Huzsinga and Ageton 1985; Elliott and Ageton 1979; Hirschi 1969; Lemert 1967; Merton 1968). The role of mobile telephony among teens has also started to have a literature of its own (Ling and Yttri 2003; Rautiainen and Kasesniemi 2000; Skog and Jamtøy

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<sup>2</sup> The citations in this chapter come from group interviews that were conducted in Norwegian. The citations were translated into English by the author.

2002). The goal of this paper is to go somewhat further in this analysis and to look at the role of mobile telephony and SMS in the broader social world of teens.

## 2 Method

The analysis described here is based on material gathered in the study *Ung i Norge* (Young in Norway) study carried out by Norwegian Social Research. This is a survey based on a questionnaire that was administered to 11 928 students from 47 randomly selected middle schools and 26 high schools. The data was collected in February of 2002. The material covers students from the 3 middle school years and the 3 high school years. There were approximately 2000 persons from each of these six grade levels. The age range was from 13 to 19 years of age.<sup>3</sup> There was a 49/51% split between males and females respectively. The material from the survey was compared to the general demographic for Norway. The gender balance, age, location, family sized and constitution and immigration status were compared. While some differences were noted, the general picture is correct (Rossow and Bø 2003)

The data material is the second in a series of studies done on youth in Norway by Norwegian Social Research. The previous questionnaire was carried out in 1992. That material has been used for various studies describing the situation of teens in Norway. In the intervening decade, one saw the rise of the Internet and mobile telephony. Thus, in addition to providing a second chance to see how Norwegian teens were faring, a new study also provided the chance to examine their use of these information and communication technologies, cultural items that were not as prominent in the lives of teen in the early 1990's.

The questionnaire covered a broad range of topics. In addition to the basic ownership and use of mobile telephony, respondents were asked to describe among other things their: 1) attitudes toward and participation in clubs and other social activity, 2) relationship to their parents, 3) sense of school and school achievement, 4) career choice and current work, 5) self-image, 6) general use of ICT, 7) romance and sexual activity, 8) participation in deviant activity, 9) use of controlled substances, 10) participation in physical training, political engagement and cultural activities and 11) spending of money on various activities. In addition, the sponsors of the questionnaire were generous in their willingness to include questions covering teen's use of Internet and mobile telephony.

The focus of the analysis was to look at different areas in which the mobile telephone and SMS might covary with important issues for teens. As noted above there were four general areas of interest. These were that the mobile telephone is an element in teens' 1) emancipation from the home, 2) integration into the peer group, 3) boundary testing, including drinking, sexuality and interaction with authorities and finally 4) their eventual participation in openly criminal activities.

Based on these areas of focus, complex independent variables<sup>4</sup> were constructed from the material in the broader database. These complex variables were built up from the batteries of questions in the database. The relevant batteries of questions were first selected based on their usefulness for the analysis and then the complex variables were built with the use of fac-

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<sup>3</sup> The two older age groups and, in particular, the 19 year olds, were underrepresented since many of teens in these age groups had graduated.

<sup>4</sup> These independent variables are complex in the sense that the variables were constructed from various items in larger? batteries of questions. Thus, each indicator contains the influences of several individual questions on the questionnaire.

tor analysis.<sup>5</sup> This resulted in a large number of complex variables. The next step in the process was to engage in a type of dynamic model testing wherein the different complex variables were assembled into that array that best explained the variance in the use of voice mobile and SMS.

## 2.1 Mobile Communications Access and Use

The material shows that, overall, 94% of the teens in the study reported owning a mobile telephone. One can see from this that mobile telephony is securely institutionalized among Norwegian teens. When looking at the age-based ownership statistics, 88% of the 13 year-olds owned a mobile telephone while 97% of the 19 year-olds had one. More females (96%) than males (92%) reported owning a mobile telephone. There were significantly more girls than boys in the 13 to 18 year groups who had a mobile telephone (See figure 1).<sup>6</sup> It is only among the 19 year olds that both genders are on par with each other. The finding that teen girls are quicker to adopt mobile telephony has been found in other material (Ling 2004). Studies also often show that women are more skilled in using the telephone to organize social life and attend to the nurturing of others (Moyal 1992; Rakow 1992; Rosenthal 1985). The difference in ownership perhaps reflects the notion that women and girls have stronger social networking skills (Cochran 1993; Di Leonardo 1987; Moore 1990). There may also be a safety related issue associated with the gendered adoption of mobile telephones (Ling 2004; Rakow and Navarro 1993)

The material shows that there were 5.7% of the teens reported that they did not own a mobile telephone nor had they used one during the day previous to the administration of the questionnaire.

When considering use of the mobile telephone, all respondents, regardless of ownership status, were asked how many times they had talked on the phone and how many SMS messages they had sent and received the previous day. The median user had 1 – 2 conversations and sent 3 – 5 SMS messages. The teen girls and, in particular, the young teen girls are un-

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<sup>5</sup> The material behind this analysis is a relatively large amount of data. It is, indeed, somewhat difficult to gain insight without simplifying the material in some ways. It is in this context that we drew on what is called factor analysis. This analysis technique searches through large batteries of data and seeks out those variables that covary. The point is to discover the underlying “factors” – that is the groupings of variables – that form together into identifiable complex-variables.

If, for example, one had a database that described preferences for various types of food, the individual variables might show that an individual liked hot dogs, ketchup, hot dog buns, potato chips and cola. The factor analysis would determine the underlying correlations between the individual’s preferences for these items and it would suggest that these items could be placed onto the same “factor” that might be called something like hotdog preference. In addition, it would provide a weight for each of the individual items that would indicate their contribution to this particular factor. Presumably, the “weight” of potato chips would contribute less than that of hot dog buns, for example. Finally, based on this weighting, it can provide all the items cases in the database, that is, all the persons who provided their rankings, with a relative factor score. That is, the degree to which they felt that those items were preferable. Thus, one might expect that a “hot dog” factor would differ sharply from a “vegetarian casserole” factor in the analysis. That is, there would be little covariance between the meat eating hot dog lovers and the vegetarians.

After the factors are in place, one can then do further analyses on them to determine the demographic placement of the factors and the interaction between the factors and other items in the database. In addition, one can examine the factors in terms of other issues such as, for example, the proclivity to use mobile telephony.

<sup>6</sup> The symbol \*\*\* indicates a significance of less than 0.001. The symbol \*\* indicates a significance level between 0.001 and 0.01. The symbol \* indicates a significance level between 0.01 and 0.05 and the symbol + indicates a significance level between 0.05 and 0.1.

derrepresented among the non-users and over-represented among those making a moderate number of calls per day. When considering voice telephony, 29.6% of the informants with access to a mobile telephone had not made any calls the previous day; 35% reported making 1 to 2 calls; 21.2% reported making 3 to 5 calls; and the remaining 7.5% had made more than 5 calls. Broadly speaking, the same contours appear with SMS use. The girls, and in particular the younger girls are over-represented among those users who had sent a moderate number of SMSs the previous day (that is among those who had sent two to five messages the previous day) , and the most intense use category is gender neutral.

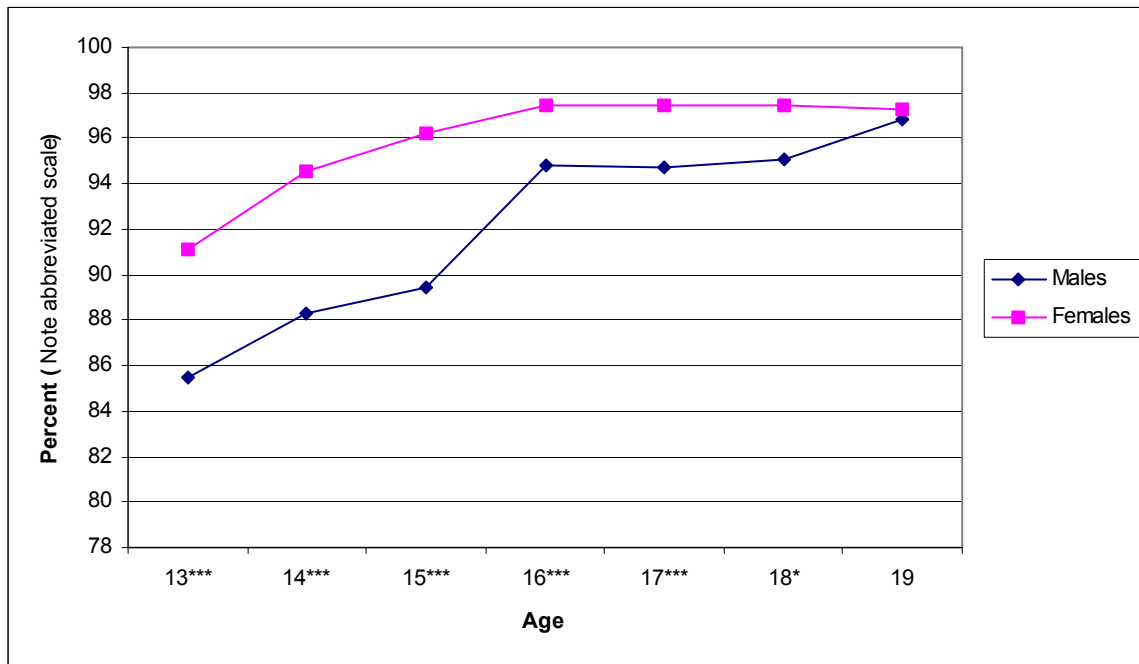


Figure 1 Ownership of mobile telephones by age and gender, Norway 2002, (n = 11 199)

The high use group – both when considering SMS but in particular when looking at voice telephony – is of special interest. It seems to be the tail that is wagging the dog. Its reported behavior and attitudes mark it as a special group. It is a relatively small group but its extended use of voice telephony – a less favored communication form among teens in comparison to SMS– has several interesting covariances that are discussed below.

## 2.2 The social context of teens

The explanatory variables<sup>7</sup> fit into the areas of parental control, peer acceptance, boundary testing and serious deviance. In addition, there were several variables describing other socio-demographic areas such as grade level and their spending levels.

The degree of teen emancipation from their home was seen in two complex variables. The first was the degree of parental control (reported parental insight into school assignments, marks in school, the teen's physical comings and goings, and the freedom with which teens told their parents what their free time activities were). The second described the extent to which teens' orientation towards the home (the frequency which the teens were home with their parents and how often they helped with household chores). The data shows, for example

<sup>7</sup> It needs to be noted here that I am not positing a causal direction, only a co-variance.

that about 67% of the teens agreed with the statement that their parents usually know where they were. By contrast, 8% disagreed with this statement.

Social integration into the peer group was measured with complex variables describing the teens sense of their own popularity (number of friends, ease with which one can make friends, sense of popularity, feeling of peer acceptance), the time spent with friends, time spent at public locations outside the home (“hanging” on a street corner, a kiosk, a gas station or in a café or a snack bar) and their sense of loneliness. When looking at the latter variable, one of the component elements was “I think that there are people around me but not with me.” The data shows that 5% of the teens felt this often while 22% felt this on occasion. By contrast, 51% felt that they had a “many” friends.

There were several variables describing the degree to which the teens engaged in the minor deviance or the so-called status offenses. These included reported sexual activity (varying from “French” kissing to intercourse), drinking, truancy, being in trouble in school and on a slightly different tact, teens’ sense of control over their school experience. If one examines sexual activity, 48% of the 8<sup>th</sup> graders<sup>8</sup> reported that they had not had any sexual experience. This drops to 11% for those in the oldest group. The data shows that 44% of the teens had never drunken so much alcohol as to “feel drunk.” This varies between 83% of the 13 year olds to 17% of the 19 year olds.

Finally, complex variables describing the teens’ reported participation in openly illicit activities were developed. These variables described the teens’ eventual engagement in rather severe activities. The items included in the theft/fighting variable<sup>9</sup> included stealing more than \$145, theft of motor vehicles, fighting with weapons (usually knives) and contact with the police. The variable describing narcotic use included both the use of marijuana as well as heroin. Thus, the activities described here are not simple “coming of age” transgressions, rather they are in many cases offenses for which one can be jailed. Just to give a sense of the incidence of these more serious offenses, the percent of teens who report having used marijuana or hash goes from 3% among the 13 year olds to 23% among the 19 year olds when looking at hard drugs such as cocaine, LSD or heroin the percentages go from slightly more than 1% to just over 8% for the oldest age group.

The teen’s use of other ICTs was also included in the analysis. These are not necessarily focused on the same issues as the emancipation/social integration/deviance variables described above. None-the-less they are a part of their everyday life. Because of this a complex variable describing the teens use of video and electronic gaming and another describing their use of the PC were included.

## 3 Results

### 3.1 Voice mobile telephony

The model with the greatest explanatory power was that describing the use of voice telephony. When looking at the entire sample, the model explained just over 28% of the variance.<sup>10</sup> There were many of the complex variables that showed high levels of covariance with voice

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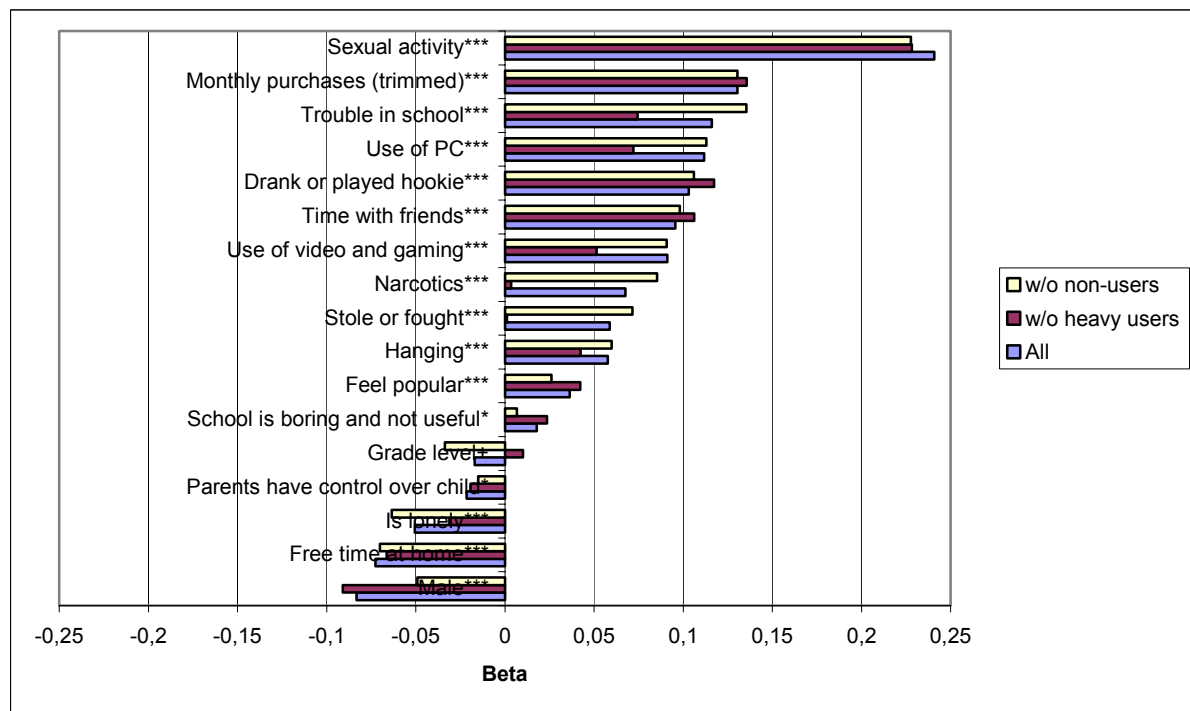
<sup>8</sup> Teens in the 8<sup>th</sup> grade were largely 13 years old with some 14 year olds among them.

<sup>9</sup> These two types of activities factored onto the same variable.

<sup>10</sup> The adjusted  $r^2$  was 0.285.

mobile telephony.<sup>11</sup> These included a positive relationship between the use of voice mobile telephony and the teens' levels of sexual activity, reported monthly spending level, incidence of trouble in school, use of the PC, incidence of drinking or truancy in school, and time spent with friends (See figure 2; see also results in the appendix).<sup>12</sup>

To further examine the use of voice mobile telephony, I removed the most extreme voice mobile users as well as those who do not use voice mobile telephony from the sample in two respective analyses of the data. The point here is to determine differences between the extreme users and those who are closer to normal use.<sup>13</sup>



**Figure 2 Regression results for voice mobile telephony**

The analysis indicates that removal of the heavy user group causes greater changes than removal of the non-use group. Specifically, when the extreme-use group is removed, the variables describing narcotic use and stealing/fighting are no longer significant.<sup>14</sup> Other changes are that one is less likely to report being in trouble in school and is more likely to report being

<sup>11</sup> Again, I want to underscore the point that I explain covariance here, not causality.

<sup>12</sup> It is not surprising that this is the stronger of the two analyses. Voice telephony is not used as often among teens. It is more expensive and it is not as discrete as SMS. Finally, fewer persons used this form of communication. All of this means that it is easier to develop models describing the behavior.

<sup>13</sup> The extreme use group was defined as those who make more than 6 calls a day. This group constitutes 7.5% of the total sample. Within this group 5.5% made 6 to 10 calls, 1.2% made between 11 and 20 calls and 1% reported making more than 20 calls a day. While six calls a day may not seem extreme, this is but the lower boundary for a category that includes extremely heavy users. One must also note that the cost of mobile voice telephony is often seen as a factor that limits use when compared to the relatively inexpensive landline telephony – particularly when it is one's parents who pay for landline telephony but not mobile telephony. The “non-ownership, non-use” group included all those persons who had no mobile telephone and who also reported not using one. This group is 5.8% of the population.

<sup>14</sup> The extreme users group made up 7.6% of the total sample.

lonely. These variables are all significant in the model that excludes the heavy users, but their relative weight changes.

When the non-users are dropped from the analysis the only variable that is no longer significant is the variable describing school as being boring and useless.<sup>15</sup> Thus, there are only marginal changes when the non-users are dropped from the analysis where one sees broader shifts when the extreme users are no longer included in the equation.

### **3.2 SMS**

The model describing the use of SMS is weaker than that describing mobile voice telephony. Where about a quarter of the variance was explained in the voice mobile model only about 16% of the variance was explained when considering SMS.<sup>16</sup> By way of explanation, SMS is far more common among teens than voice telephony. Voice mobile telephony is the more unique service. Teens that use SMS are normal, those who use voice are different from the crowd. SMS is less generally less expensive than voice and it constitutes a large part of teens' daily interaction. SMS has a stronger profile as a teen service, possibly tipping over into being seen as a service for immature and superficial persons.<sup>17</sup> Voice telephony may be associated with mature, serious use.

The variables that contribute most to the model are sexual activity, gender (females are stronger SMS users than males), amount of money spent each month, and interestingly, use of the PC (See figure 3; see also the appendix).

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<sup>15</sup> The non-voice mobile group made up 5.8% of the sample.

<sup>16</sup> The adjusted  $r^2$  was 0.1608.

<sup>17</sup> From a methods perspective, since essentially all teens in Norway use SMS, it is more difficult to find independent characteristics with which to describe the use. Among 14 – 15 year olds, approximately 45% report using mobile voice telephony on a daily basis. More than 70% report daily use of SMS. The socio-demographic contours of use are less pronounced and this means that it is more difficult to tease out a model describing the use.

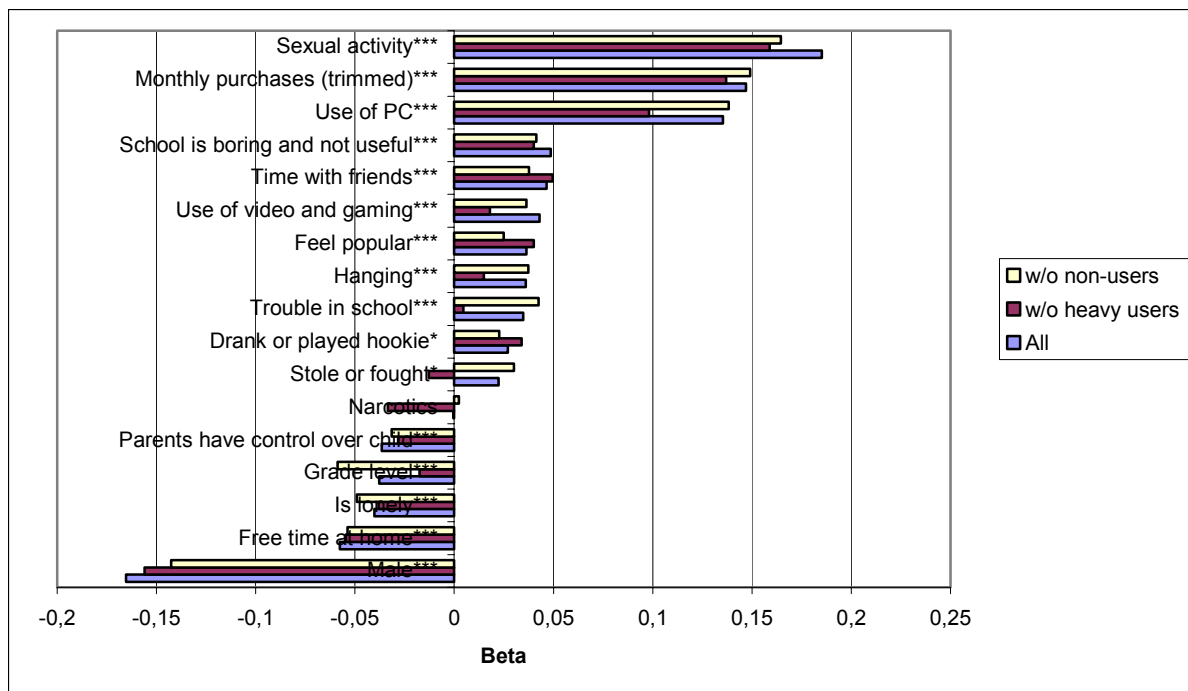


Figure 3 Regression results for SMS use

As with mobile voice telephony, extreme users were also of interest. In this case, the extreme high users those who sent more than 20 messages a day.<sup>18</sup> Non-users were those who reported neither having a mobile telephone nor sending any messages.

There are significant differences in narcotic use, stealing and fighting, being in trouble in school and interestingly, in PC use when comparing the whole sample to the sample minus the extreme users. In the case of narcotic use, the analysis shows that the variable goes from being inconsequential when examining the whole sample to being moderately (but significantly) negative when the extreme high users are dropped from the sample. Stealing and fighting goes from being positively related to SMS use – and significant at the 0.01 level – to being slightly negatively related and not being a significant contribution to the general model. The incidence of being in trouble in school also goes from having a positive relationship to SMS use to being inconsequential when the heavy users are dropped from the analysis.

A similar analysis was done by comparing the whole sample to the sample minus non-users. Grade level/age dropped out of the model as a significant variable in the analysis where the non-users were excluded.<sup>19</sup> Thus, the heavy users of both voice mobile telephony and, to a lesser degree, SMS mark themselves as being different from the masses on more dimensions than the non-users.

## 4 Discussion

### 4.1 Integration into the group

In addition to providing a mechanism for emancipation, the mobile telephone also assists in the integration of the teen peer group. Mobile telephony plays into the social life and the ability to organize one's own social activities. The analysis indicates that there is a covariation

<sup>18</sup> The heavy SMS users made up 4.5% of the total sample.

<sup>19</sup> The non-SMS users made up 5.8% of the total sample.

between use of the device and a reduction in one's sense of loneliness, one's sense of popularity, and in the reported time spent with friends. Specifically, the more one uses SMS and voice mobile telephony, the less one feels lonely.

Again, there are differences between the total sample and the extreme users. These are particularly strong when considering voice mobile telephony but also evident when examining SMS. There is a weak but significant relationship between SMS/voice and reports of feeling popular. There is a reasonably strong positive relationship between use of voice mobile and amount of time spent with friends. SMS shows a similar effect but not nearly as strongly as voice. One can observe a reasonably strong positive relationship between use of voice mobile and amount of time spent "hanging out."<sup>20</sup> The same is, to a lesser degree, true of SMS. There are some moderate differences when the extreme users are dropped from the analysis in that respondents reported less "hanging out." As I will develop below, the voice/SMS differences may have functional as well as symbolic moments.

## 4.2 Boundary-testing

Another dimension of emancipation are various types of boundary-testing behaviors. These include the so-called status offenses wherein behaviors that are seen as deviant for teens are seen as being tolerated among adults (sexuality, drinking and missing mandated attendance at a social institution). In other cases, teens test boundaries through unguarded interaction with authority figures such as teachers and school administrators. These actions are not in themselves a transgression of the laws. However, a poorly calibrated interaction with a teacher can mean that a teen ends up in trouble.

Sex and sexuality are also boundary-testing behaviors. The contribution of sexuality to the model is the strongest variable in the analysis both in terms of SMS and the mobile voice telephony. In the case of voice, it contributes almost twice as much as the next most important variable. Further, there are no clear differences in the covariance of sexual activity and mobile voice telephony when either the extreme users or the non-users are eliminated from the analysis. Thus, the use of mobile telephony – both voice mobile and SMS – has a relatively strong positive relationship to sexual activity among the teens in the study.

There was also a positive relationship between the complex truancy/drinking variable and mobile telephone use. This was particularly strong in the case of voice telephony. In addition, there was a positive relationship between reporting that one was in trouble in school and mobile telephone use. The removal of the heaviest users (both SMS and voice) resulted in a much weaker contribution of these variables to the model. Finally, there is a slight but significantly inverse relationship between SMS and mobile voice with regards to the sense that teens feel school is less relevant.

The material seems to indicate that mobile telephony has a role in teen's exploration of these boundary areas. As noted above, a part of the adolescent experience is the need to better define social boundaries and to better understand the consequences of transgression. The material here points to the notion that mobile telephony (including SMS) is a part of the boundary-testing complex.

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<sup>20</sup> The indicators on this complex variable indicated the respondent spent time "hanging" for example on street corners, at local hamburger bars or gas stations (a popular location for teens in small isolated communities).

### 4.3 Heavy criminality

Finally, the analysis shows that there was a positive relationship between the respondents reporting the heavy use of voice/SMS and various types of heavy criminality. There was a covariance between stealing/fighting and use of voice and SMS. The effect for voice is somewhat stronger than with SMS. The interesting thing here is that when one drops the extreme users, there is a dramatic shift in the contribution of this variable. In both the case of voice and SMS, one goes from being a positive (and significant) relationship to being an inconsequential (and insignificant) relationship.

In the case of narcotics use, there is a positive relationship with voice telephony.<sup>21</sup> There is no real relationship when looking at SMS use. As with stealing/fighting dramatic differences arise when one drops the extreme users from the analysis. In the case of mobile voice, telephony the relationship becomes inconsequential and insignificant. In the case of SMS, the relationship actually goes from being inconsequential to being a significant inverse relationship.

The data shows that extended use of the mobile telephone for voice telephony covaries with the reported engagement in some serious forms of deviance. It also described the engagement in a variety of illicit activities such as breaking and entering, stealing, vandalizing and fighting with weapons.<sup>22</sup>

### 4.4 Mobile communication and teen deviance

When considering the extreme telephony users, one finds the incidence of the heavier types of deviance. However, it is important to remember that high use of mobile telephony is not necessarily causally related to deviance. This may well be the case of the tail wagging the dog. In other words, just because a person uses mobile telephony a lot, it does not mean that they will eventually become deviant. One who, for example, has responsibility for organizing choir practice may well use as much mobile telephony as a drug pusher. The point is that mobile telephony can facilitate activities and life directions that are chosen for completely different reasons. Thus, extreme use should be seen as a potential marker more than a slippery slope.

Three issues are at play here. The models indicate that, voice mobile telephony and SMS use covary with the gender of the user (girls use more than boys), there are a set of boundary testing behaviors that covary with use (in particular sexual activity) and finally, for the extreme users, there is a covariance with illicit activities. The first finding, that is the gendered use of mobile telephony, confirms the results of other analyses (Ling 2001a; Ling 2003). It often seems to be the case that girls and women are stronger users of communications technology, particularly when it comes to remote care giving and social networking (Rakow and Navarro 1993). This is reflected here. It is also seen in the fact that voice mobile and SMS use covary with the social integration variables included in the analysis.

The second general finding shows that the mobile telephone has become an element in the boundary testing of teens. This is seen in the covariance with the variables describing the use of alcohol, truancy, the questioning of authority in school, but most directly in terms of variable describing sexual activity. The fact that the device is a personal communication channel that is actually controlled by the individual means that communication is more precisely ad-

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<sup>21</sup> The variable describing the use of narcotics included the use of relatively benign drugs such as marijuana but it also described the use of heavy drugs such as cocaine and heroin.

<sup>22</sup> In Norway, the usual weapon used in these situations is a knife.

dressed and one need not deal with the filtering effects of parents and other family members. This can have the effect of facilitating intimate interaction and other types of teen boundary testing. Although it is not possible to know from this data, other qualitative data leads one to the notion that teens arrange tête-à-têtes and other intimate interactions via SMS. This interaction has been suggested for the Norwegian situation (Pedersen and Samuelsen 2003), as well as in the anthropological analysis of courting behavior in the Philippines (Ellwood-Clayton 2003).

Finally, there is the interaction between extreme mobile/SMS use and the heavier forms of criminality. There are many ideas as to why and how one becomes deviant and how this is translated into a culture of deviance. It has been suggested that criminality results if one experiences too great a gap between social expectations and their ability to fulfill these expectations (Merton 1968). It may also be such that criminality results when one is subjected to a public degradation. According to this approach, the subsequent labeling as a deviant can then play into a self-fulfilling prophesy (Lemert 1951; Lemert 1967). Further upon becoming a part of a deviant culture one is held there by social forces such as attachment to others in the culture, commitment to one's position, active involvement in the culture that serves to refresh one's attachment and commitment, and finally one's belief in the centrality of the group to their life (Hirschi 1969).<sup>23</sup> It is this latter complex of a tightly bounded network that mobile communication can play into the picture. The low threshold for communication can facilitate the maintenance of a deviant culture in just the same way that it can facilitate the maintenance of the group of teen girls' mutual infatuation with a pop group. What is special here, however, is the relationship between these illicit activities and extreme use.

The material here suggests that the effects are stronger for those who use mobile voice telephony than for those who are extreme users of SMS. There are several elements to consider here. First, voice mobile telephony is more synchronous than SMS. In a lifestyle wherein coordination is often of the essence, voice telephony would represent a preferred choice. Another logistical advantage to voice telephony is that it is ephemeral. There is no permanent record of the interaction. For one who may have an interest in covering their tracks, this would be an advantage.

Second, there are symbolic issues at play. SMS can be seen as a services for immature superficial persons when voice mobile ties one into the world of powerful actors on an expansive stage. There is an insubstantial "teeny bopper" image that can be associated with SMS where use of voice mobile has a more urgent and weighty image. The use of voice mobile marks one as having access to resources and being involved in breaking developments, be they legitimate or illicit. Indeed the culture of SMS is quite strong among teens and in particular teen girls (Ling 2003). Thus, teens that engage in the heavier forms of deviance may see the more extravagant use of voice telephony as a way to further mark their distinctive lifestyle and to distance themselves from the immature image of SMS.

In sum, it seems that SMS and mobile voice telephony play into the adolescent experience in complex ways. These modes of communication facilitate emancipation; they assist in the bonding of the peer group and in some cases they play into more illicit activities. There is, however a special role in terms of boundary testing behaviors that are, after all, a part of the emancipation process.

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<sup>23</sup> Interestingly, these same elements can bind one to a "non-delinquent" life to the same degree that they can bind one to that which is seen as a delinquent life.

## 5 Appendix: Regression results

### Regression results from the analysis of mobile voice telephony

	Unstandardized Co-efficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0,783504	0,027015		29,00308	1,7E-178
Male***	-0,26058	0,021457	-0,11788	-12,1443	9,94E-34
Free time at home***	-0,09946	0,009675	-0,08696	-10,2799	1,11E-24
Is lonely***	-0,06253	0,010654	-0,05598	-5,86914	4,5E-09
Parents have control over child***	-0,02772	0,010009	-0,02436	-2,77001	0,005615
School is boring and not useful*	0,023902	0,00952	0,020746	2,510735	0,012062
Grade level***	0,031117	0,006668	0,046821	4,666837	3,09E-06
Feel popular***	0,061704	0,01121	0,052788	5,504444	3,78E-08
Stole or fought***	0,078138	0,009681	0,067804	8,070867	7,68E-16
Hanging***	0,08006	0,009809	0,070002	8,16159	3,65E-16
Narcotics***	0,093074	0,009517	0,080765	9,779363	1,69E-22
Use of video and gaming***	0,111208	0,011044	0,09867	10,06974	9,45E-24
Time with friends***	0,127707	0,009616	0,111663	13,2808	5,93E-40
Use of PC***	0,130795	0,009336	0,116662	14,00974	3,16E-44
Trouble in school***	0,167186	0,009971	0,145074	16,76747	2,36E-62
Trimmed reported sum payments per month***	0,00014	8,17E-06	0,151057	17,17566	2,68E-65
Drank or played hookie***	0,224795	0,01179	0,195064	19,06653	8,33E-80

Dependent Variable: MOBTALK

R	Adjusted		
	R Square	R Square	Std. Error of the Estimate
0,504022	0,254039	0,252991	0,950171

## Regression results from the analysis of SMS use

	Unstandardized Coefficients		Standardized	t	Sig.
	B	Std. Error	Beta		
(Constant)	1,480885	0,040535		36,53349	2E-276
Male***	-0,59378	0,032197	-0,19186	-18,4423	7,36E-75
Free time at home***	-0,10987	0,014517	-0,06862	-7,56827	4,07E-14
Is lonely***	-0,06949	0,015986	-0,04444	-4,34705	1,39E-05
Parents have control over child***	-0,06167	0,015018	-0,0387	-4,10613	4,05E-05
Narcotics	0,015736	0,014281	0,009753	1,10188	0,270537
Grade level	0,01052	0,010005	0,011307	1,051522	0,293041
Stole or fought**	0,047114	0,014527	0,029202	3,243225	0,001185
Hanging***	0,07287	0,014719	0,045511	4,950786	7,5E-07
Use of video and gaming***	0,077006	0,016571	0,048803	4,647014	3,41E-06
Feel popular***	0,080088	0,01682	0,04894	4,7614	1,95E-06
School is boring and not useful***	0,082034	0,014284	0,050859	5,742895	9,55E-09
Trouble in school***	0,0921	0,014961	0,057085	6,155923	7,72E-10
Time with friends***	0,09444	0,014429	0,058983	6,545362	6,19E-11
Drank or played hookie***	0,157787	0,017691	0,0978	8,919142	5,41E-19
Use of PC***	0,218396	0,014009	0,139142	15,59009	3,09E-54
Trimmed reported sum payments per month***	0,000212	1,23E-05	0,16278	17,26888	5,57E-66

Dependent Variable: SMS1A

R	Adjusted R		Std. Error of the Estimate
	R Square	Square	
0,378271	0,143089	0,141885	1,425721

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