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The adoption of the mobile phone by young people has been a global phenomenon in recent years. It is now an integral part of adolescents' daily lives and is for the majority, the most popular form of electronic communication. In fact, the mobile phone has turned from a technological tool to a social tool. This paper explores the impact of the mobile phone on youth peer relationships, on family relationships and on the institution of the school. Young people use the mobile phone in positive ways to organise and maintain their social networks. However, there are also negative impacts on young peoples' peer relationships. These can include ostracism and cyber bullying. Similarly, the mobile phone has lead to changed dynamics in the family, with issues of safety and surveillance from a parental perspective leading to negotiated changing freedoms for young people. While functional coordination can be beneficial for the family, other problems can arise such as financial difficulties, non-custodial parent access, as well as over reliance on the mobile phone for safety issues and intrusion into young peoples' lives. The impact of the mobile phone on the school as an institution has not however, received as much research. Disruptions to lessons, incidences of cheating and bullying are some of the negative impacts, while texting parents of truants seems to be the only positive for the school. Further research is needed into the consequences of mobile phone use in schools.

Mobile phones; young people; peer relationships; schools; families

Introduction

The invention of the fixed telephone in the late 19th century in the United States changed the way that people interacted and communicated. This has been paralleled in the early 21st century by the advent of the mobile phone. The mobile phone was originally created for adults for business use (Aoki & Downes, 2003). This is extremely similar to the fixed telephone in the early 20th century, where telephone engineers explained that the telephone was made for the business world and not for social conversation (Flinchy, 1997). The growth of mobile phone technology is demonstrated by the fact that in 2002 the number of mobile phone users worldwide, surpassed those of fixed-phone users (Srivastava, 2005). It has been predicted that by the end of 2005, the number of mobile phone subscribers worldwide will reach 2 billion (Deloitte Research, 2005) and in Australia will reach 19.2 million (Fisher, 2005).

While these figures are impressive, the rate at which young people have adopted the mobile phone in many parts of the world is even more impressive. The mobile phone had been in existence for about a decade before young people really adopted this technology. The reduction in the cost of the handsets, their smaller size and the introduction of the pre-paid phone card in the 1990's contributed to the surprisingly rapid adoption rate by young people (Ling, 2001; 2003). Various surveys worldwide have found high rates of mobile phone use amongst young people. In Norway in 1999, 80% of 13 to 20-year-olds owned a mobile phone, while in the United Kingdom in 2001, 90% of young people under the age of 16 did so (www.capacitybuilder.co.uk). In 2003, in Italy, 56% of children aged 9 and 10-years-old owned mobile phones and of the 44% who didn't, all expressed a desire to own one (Guardian Unlimited, 2003), and amongst teenage girls in Tokyo, the adoption rate is almost 100% (Srivastava, 2005). In Australia in 2004, a survey by iTouch found that 50,000 children aged between 5 and 9 years of age owned a mobile phone, one third of children aged 10 to 13-years old and 45% of 13 to 15-year-olds also owned the device (Allison, 2004). Thus, in recent years, the number of adolescents owning a mobile phone has risen so dramatically that adolescents are now more likely to own and use a mobile phone than their parents (Netsafe, 2005).

Not only do young people own mobile phones, they have a "symbolic and affective investment" in them (Lobet-Maris, 2003, p.88). Surveys have consistently shown that young people even prefer their mobile phone to television or the Internet (Enpocket, 2005; Hession, 2001). It is children's favourite method of communication (Livingstone & Bober, 2005) with younger adolescents (school years 7 to 9) more attached to their mobile phones than older adolescents (school years 10 to 12) as they reported needing to return home to collect their phone if they forget it (Matthews, 2004). Young people also save text messages which they value and cherish (Taylor & Harper, 2003).

The mobile phone is a status symbol for young people. The features of the phone, the appearance and personalised accessories all attest to the phone's status, with sixty percent of adolescents reporting they were keen to upgrade their mobile phone (Netsafe, 2005). It is seen as a fashion accessory that satisfies the need for individualisation by having choices in mobile wallpaper, ring tones, phone covers, carry bags and other accessories (Srivastava, 2005) and yet also signifies being part of the peer group (Williams & Williams, 2005). Indeed, even the ownership of a mobile phone indicates that one is socially connected, accessible and in demand. It can also be seen as a symbol of independence from one's family.

As Ling (2001) asserts "the introduction and adoption of the mobile telephone has led to various adjustments in a range of social institutions" (p.1), namely the adolescents'

peer group, the family and the school. This paper explores both the positive and the negative impact of the device on these three institutions.

The impact of the mobile phone on the peer group

The impact of the mobile phone on young people's peer groups has been extensive. Adolescence is a time of change and increasing influence of the peer group (Ling & Helmersen, 2000) and thus communication amongst peer group members is central to the identity of the individual. The impact of the mobile phone on peer relationships has transformed the peer group into a truly networked society (Williams & Williams, 2005).

Functional

One of the main stated reasons for young people's use of the mobile phone is functionality or 'micro-coordination' of their social life. Adolescence is a time of transcending the family boundaries and generating more extensive networks with peers. As all social life is based on ongoing interpersonal interaction, the fixed telephone has been an essential instrument to enable young people to organise their social life (Manceron, 1997). This ability to communicate has been extended further by the use of the mobile phone which not only enables coordination free from the constraints of physical proximity, but also of spatial immobility; that is, the need to stay at specific places (Geser, 2004). The ability of the mobile phone to directly contact a person allows young people even more flexibility and spontaneity in their lives. Young people are able to arrange or rearrange social functions extremely quickly which leads to a "more fluid culture of information social interaction" (Geser, 2004, p.20). However, as with all things, this does have a downside, for example, where the mobile phone is used to enable hundreds of young people to gatecrash parties (Weston, Atkinson, & Giles, 2005).

Relational

However, the most important impact the mobile phone has had, is to connect young people and their peer group. Even the functional use of the mobile phone is intertwined with the relational use; that is, it serves to link peers more closely to one another even more than the fixed phone, as it is done without adult interference. In a New Zealand study 56% of high school students reported that the most important reason for using a mobile phone was to talk and text with friends (Netsafe, 2005). This relational aspect is important as shown by the rules of engagement. One of the emerging rules is that answers to text messages are expected within a very short time frame – from 15 to 30 minutes and if sent later must be accompanied by an apology (Kasesniemi & Rautiainen, 2002).

Negative

However, along with these positive impacts, there are negative aspects to young people's mobile phone use. These include hiding behind the technology from emotionally distressing events, such as ending relationships, ostracism of those without mobile phones and cyber bullying. Some sociologists argue that as many young people choose to text rather than to talk about awkward or emotionally difficult situations that

this will impact on their capacity to interact with each other (Srivastava, 2005). As Fox (2001) concludes from her focus group interviews, texting is a very useful way of undertaking one's social obligations to stay in touch without spending time or energy on the encounter. Texting avoids awkward silences and having to make conversation. It enables shy or reserved young people to communicate without embarrassing emotions while encouraging candid or even cheeky text (Plant, 2000). Texting, because of the character limit, by its very nature needs to be brief, without the need for social niceties.

In relation to the ostracism of young people who do not have a mobile phone, there appears to be contradictions in the research. In the United Kingdom, researchers have noted that non-mobile phone owners are particularly vulnerable to social exclusion (Charlton, Panting, & Hannan, 2002). An Australian study reported that nearly half of adolescents who did not own a mobile phone reported feeling left out of social interactions, and a third felt pressured sometimes by their friends to get one (Matthews, 2004). However, the majority (91%) of adolescents who owned mobile phones reported they respected young people who decide that they do not need one. Perhaps this suggests that adolescents are not ostracising non-mobile phone owners by deliberately excluding them but perhaps do leave them out because they cannot be contacted easily. It is also possible however, that respondents answered this question in a socially desirable manner.

Another negative aspect of young people's mobile phone use is to bully others. Cyber bullying, as coined by Canadian Bill Belsey (www.cyberbullying.ca) or bullying using technology, is a phenomena which children and adolescents seem to be increasingly using to harm others (National Children's Home Study, 2002; Ybarra & Mitchell, 2004). One of the few studies that have investigated this phenomena found that most of the victims of cyber bullying were bullied by texting (Campbell & Gardner, 2005). The consequences of face-to-face bullying include increased levels of depression, anxiety, psychosomatic symptoms and even suicide (Kaltiala-Heino, Rimpela, Rantanen, & Rimpela, 2000; Kumpulainen, Rasanen, Henttonen, Almqvist, Kresanov et al., 1998; Neary & Joseph, 1994; Roland, 2002). The consequences of cyber bullying are yet to be researched but have the potential to be even more serious than face-to-face bullying. When bullies abuse verbally, the victim may not remember every word, but with texting the targeted student can read the message repeatedly. This could seem more concrete and "real" than spoken words. There is also the 24/7 aspect of the mobile phone which allows cyber bullying to occur at anytime, day or night, with no escape.

Impact of the mobile phone on the family

Safety

One of the most cited reasons that parents want their children to have a mobile phone is for safety (Geser, 2004; Ling, 2000a; Srivastava, 2005). The mobile phone is given to the children by parents when they are first venturing outside of the home alone or going to school (Oksman & Rautiainen, 2003). The issue of gender and safety does not seem to have been considered in most research, with parents seemingly as concerned with the safety of both male and female children (Ling & Helmersen, 2000). There appears to be an over reliance however, on the use of the mobile phone as a source of protection for children. In an Australian study, 68% of parents reported that as their child had a mobile phone, they knew where they were at anytime (Matthews, 2004). There was one parent however, who acknowledged that this was only a perception. There needs to be trust in the parental child relationship, in that the child will be truthful in reporting their location. This study also found that 77% of parents reported at least one occasion when they needed to urgently contact their child but were unable to do

so. Conversely 37% of young people reported that they were unable to contact their parents urgently mainly because they were out of credit (Matthews, 2004).

The safety issue is interesting as part of the double-edged sword that the impact of mobile phones have on the family. While its use enables young people to extend their freedoms in the family in relation to curfews and places where they are permitted to go, its use also extends parents' control and authority over their children (Williams & Williams, 2005). The mobile phone means thus both enabling the child to call parents if they are in trouble but also provides a surveillance capacity of parents phoning young people. This impact on the evolving relationship in the family has been interpreted by some researchers as undermining the authority of parents. Some researchers postulate that the mobile phone has altered the power in parent-child relationships (Ling, 2000a) in that peers can contact each other without parental knowledge. Parents may not know who their child's friends are, because of lack of communication with them (Davie, Panting, & Charlton, 2004), therefore, weakening parental control (Ling, 2000a). Srivastava (2005) even goes as far as claiming that the individualised mobile phone has diluted the collective identity of the family, by becoming "less about 'oneness' and more about 'many-ness'" (p.112).

However, other researchers have interpreted the use of the mobile phone by parents as an intrusion into young people's lives. Williams and Williams (2005) base their argument of intrusion on claiming that the "relations between children and parents are increasingly characterised by negotiation, replacing more conventional relationships and traditional ideas of parental authority" (p.315). They argue that parents use the mobile phone to enter into their children's space and are thus able to socially influence their children and exert a certain degree of control over them in a public space. Keeping 'tabs' on their children is seen as parental intrusion both by talking on the mobile phone and using text messages. Parents identify where their children are and often (by texting) maintain an almost constant dialogue, similar to face-to-face conversation. Young people however, have many ways to counteract their parent's surveillance. They program certain numbers to go to the message bank or block numbers, turn their phone off straight away, or answer and pretend there is too much interference to hear (Ling & Helmersen, 2000).

Conversely, the ability to directly communicate with their children allows parents more freedom. It satisfies the need for some mothers to always be available for their children (Roos, 1993), a practice Geser calls "remote mothering" (2004, p.14). However, it also allows the parents the freedom to go out whilst still being able to be contacted at a moments notice (Davie et al., 2004).

Separated families

Just as the fixed telephone is a powerful means of communication between fathers and their children in cases of 'broken' homes (Castelain-Meunier, 1997), the mobile phone has extended this communication to give even greater access between non-custodial parents and their children, as well as greater privacy. As Ling and Helmersen (2000) argue, the mobile phone can assist the non-custodial parent to contact their child without interference from the other parent if relations are not cordial between the parents. Thus, the mobile phone allows a way in which parent-child relationships can be strengthened even though instability may exist in the parent to parent relationship (Beck & Beck-Gernsheim, 1995).

Age for mobile phone

There is controversy however, about the actual age when children first need a mobile phone. Ling and Helmersen (2000) argue that mobile phones fulfil a need when a child transitions from elementary to middle school at about age 12-13 years and enters adolescence. Although younger children have the linguistic competence and social skills to use the telephone (Veach, 1981) many adolescents and parents have reported they have no need for a personal phone as they do not have a wide social network (Ling & Helmersen, 2000). About 12 is the age when the traditional phone was also employed for peer group co-ordination and young people made more social connections with their peers outside of family activities (Skelton, 1989). However, many pre-teens also want a mobile phone as a status symbol of impending adolescence, possibly because it is seen as a symbol of independence from the family (Ling, 2000a). Additionally, parents see the mobile phone as a source of safety for their preteens. In an Australian study, Matthews (2004) found that 57% of young people reported getting a mobile phone when they were 13 or 14-years-old. However, considering the figures of adoption cited at the beginning of this paper, it would seem that this age might be getting younger.

Family Rules

It is interesting to note that there are few common family rules about young people's use of the mobile phone. In fact, many adolescents (58%) reported that there were no rules set by their parents about their mobile phone use, and only 12% reported that their parents used removal of their mobile phones as punishment (Matthews, 2004). In New Zealand, this increased to 26% of young mobile people reporting being threatened, with the phone being confiscated, as a form of punishment (Netsafe, 2005).

It has been found that some young people's sleep is disturbed when friends call them on their mobile phone to talk or when a text message is deposited (Anderson, 2003). In New Zealand 11% of young people reported being woken every night by a text message or voice call (Netsafe, 2005). There have also been anecdotal reports of young people texting under bedcovers at night and using their mobile phones as their alarm clock and torch. Probably because of the sleeping issue it has been found that the most common rule set by parents (56%) was that children have to leave their mobile phones out of their rooms at night. Ten percent of young people also reported that their parents frequently had to ask them to stop using their mobile phone late at night with 12% saying that this was the most common disagreement between them and their parents (Matthews, 2004).

Financial issues

In addition, there are issues of financial disputes in families over mobile phone payments. In the New Zealand study 13% of those surveyed reported they had "pinched" money to spend on their phone bill (Netsafe, 2005). Forty-one percent of the students had 'no idea' how much they spend on their phone bills per month and 34%, reported that their parents didn't know either. However, Ling (2000b) argues that a young person's ability to earn the money and budget for their mobile phone was seen as "a symbolic confirmation of their adulthood" (p.104). In contrast, in the Matthews' (2004) study finance disputes between parents and adolescents were small, with 16% of adolescents and 8% of parents reporting conflict.

Therefore, within the family, the adoption of the mobile phone has meant changes in power and control in the parent-child relationship because of increased freedoms as well as more micro-coordination of daily life. Thus, overall there seems to be little negative impact of the mobile phone on family relationships.

Impact of the mobile phone on the institution of the school

The school and the family are the traditional agents of socialisation. However, because of the expansion of the educational system due to the need for highly skilled workers, the school system has taken on an increasingly larger role in socialisation (Ling & Helmersen, 2000). The impact of the mobile phone on the institution of the school has surprisingly attracted little research attention. This is surprising given the often conflicting priorities of young people, parents and teachers in relation to the device, with teachers concerned about discipline issues in the classroom and parents concerned about being able to contact their children at any time (Srivastava, 2005).

The majority of researchers have found that the mobile phone leads to problematic use in schools. As Ling (2000a) states, the mobile phone is “at cross purpose with the mission of the school” (p.15). Whilst in school grounds students take on their prescribed student roles, free from contact with the outside world. The mobile phone however, allows the blending of roles and interrupts students whilst in their student role. Fixed telephones in schools allowed minimal disruption but with their parents eagerness to maintain contact, the mobile phone is becoming part of the classroom. Thus, the mobile phone has the power to undermine the schools’ authority and weaken their control over students (Geser, 2004).

The main issue for teachers is the disruption to classroom learning that can occur due to the disruptive nature of mobile phone calls and texting. The functionality of SMS lets students send and receive messages unobtrusively (Geser, 2004). Combining this with the ease of hiding the device due to its small size, makes it very difficult for teachers to control. Because of the short time frame in which an answer is expected to a message (Kasesniemi & Rautiainen, 2002), the excitement of finding out who has called and what the message is (similar to snail mail letters), young people are reluctant to turn off their mobile phone during class time. In an Italian survey of 9- and 10-year-olds, 86% of students who owned mobile phones kept them on during lessons (Guardian Unlimited, 2003). The New Zealand survey also found that 66% of students who took a mobile phone to school kept it turned on at school (Netsafe, 2005).

One positive exception to these negative effects on learning is the Brisbane “Txt Me” program. Recognising that mobile phone use had become a pervasive communication tool among young people, the project aimed to use this technology to support sustainable learning with disengaged 15 to 19-year-old students (Ison, Hayes, Robinson, & Jamieson, 2004). Although SMS messaging was found to be highly motivational and supportive to these young people’s learning, the project was delivered outside the traditional schooling structures.

One negative impact of the mobile phone is the anecdotal evidence that students are relying on their parents to solve school problems such as forgetting sports clothes. Students call parents, who ring teachers to persuade them to allow their child to participate without the correct clothing. This supports Plant’s (2000) argument that young people might be becoming less self-reliant because of the ease of communication with significant others. They are therefore unlikely to be thrown on their own resources or to encounter adventure or surprise as much as previously.

Students also use this technology, not only to communicate with others during class time, but also to cheat in exams. Students have always cheated via taking notes into class, or writing notes on hands (Ling, 2000a) however, the use of the mobile phone to cheat is much more sophisticated and it is harder to detect. Cyber bullying has also been increasing using mobile phones (Campbell & Gardner, 2005) with 23 percent of mobile phone users aged between 12 and 19-years-old in New Zealand receiving offensive or threatening calls or text messages (Netsafe, 2005).

With many mobile phones now incorporating a digital camera or video, there is a danger in schools that inappropriate pictures will be taken because of the portability and discrete nature of the camera. Pictures can be taken quickly without the knowledge of the person being photographed. Instances such as the videoing by a mobile phone camera of a girl beaten by bullies in a school in Victoria (SBS Insight, 2005) and a similar videotaping of children raping another child in England (Sunday Mail, 2005) show some of the negative uses of the mobile phone camera. These photos or videos can then be posted to a "moblog" on the Internet (Srivastava, 2005). One infamous example is a self-made film of a 15-year-old Quebec boy emulating a Star Wars fight which was posted on the Internet by his classmates. Millions of people downloaded the film, with the media dubbing him the Star Wars Kid (Snider & Borel, 2004). In another incident an overweight boy was photographed by a mobile phone camera in the school change room and the picture posted on the Internet (Mitchell, 2004).

Stealing of mobile phones is also an issue which can impact on school staff (Williams & Williams, 2005). Most victims of mobile phone theft are under 18 years of age and the phones are stolen by the same age group as well. This can put additional strain on school administration if the theft occurs at or near school and staff are expected to investigate.

One of the few positive uses of the mobile phone in schools is texting parents when students are absent from school.

School policies on mobile phone use

Although guidelines have been produced to assist teachers to facilitate responsible use within schools (AMTA, 2003), inappropriate mobile phone use remains problematic. Schools now have to provide convincing reasons why students cannot receive calls in the classroom and have to exercise some authority over their use.

Schools in Queensland have been urged to develop policies based on promulgated guidelines to manage student use of mobile phones (Bligh, 2004). These state that schools can ban anything students can bring to school if it is "likely to cause disruption or harm to the smooth running of the school" (p. 2). The use of mobile phones in class is considered disruptive and should be discouraged. However, the guidelines also acknowledge that mobile phones could be needed in genuine emergencies or could be incorporated into the learning program. It is interesting to note that theft has been considered in these guidelines which state that no liability will be accepted by the school unless it results from the department's negligence. Additionally, disciplinary action is recommended against students who cheat in exams, take inappropriate photographs or who send harassing or threatening messages. However, it is not known if schools have policies related to mobile phones and whether they are being enforced.

Some schools have already issued rules about mobile phone use to counteract these negative impacts. However, only about half of the adolescents said they always obeyed these rules (Matthews, 2004). Texting friends during class was reported by 32% of the adolescents in the study, with young people in school years 7 to 9 more likely to do so. It is interesting to note therefore, that compared with the institution of the family where

the mobile phone seems to be incorporated in a very positive way for the most part, mobile phones seem to causing disruption in schools.

Conclusion

The mobile phone has impacted on young people's peer groups enabling a truly networked society. It has also impacted on the evolving relationships within the family; especially by the increased negotiating power the mobile phone gives to young people in regard to curfews and safety issues. Schools and educational settings report that student's mobile phone use disrupts teaching and reduces student's attention in class, resulting in negative educational outcomes. However, the impact of the mobile phone on the social institution of the school has not been as widely researched and is one which has the potential to cause many problems in the future.

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