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Introduction

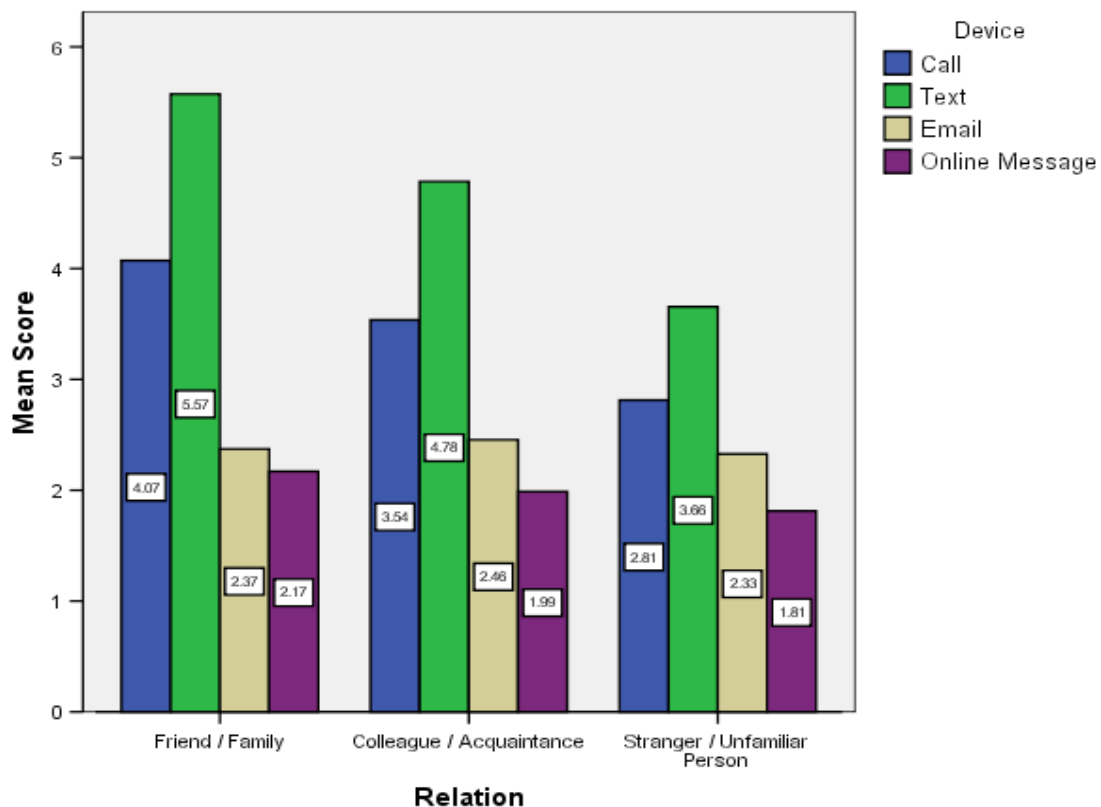
The questionnaire I am analysing was designed to gather quantitative data relating to the use of Computer Mediated Communication(CMC). The research participant was given a set of questions, inquiring how they would contact the following groups:

- ❖ A Stranger Or Unfamiliar Person
- ❖ A Work College Or Acquaintance
- ❖ A Friend Or Family Member

Each time in one of a variety of different situations. Ergo the results from this questionnaire will show how the research group treats different situations, and how they use CMC accordingly. It is designed so that it can be targeted at a large range of groups, spanning multiple ages, and genders. The targeted group for these results is that of computing students from the University of Lincoln. Because of the target group the results will probably be slightly different to those of the general public.

It is essential for the computer science community to form a valid, and up to date understanding of the way in which CMC is used within society, in order for technology (Both Software and Hardware related) to progress accordingly. By performing research, it is possible to gain an understanding on how current CMC is used. Enabling appropriate development to take place, improving on current technology where necessary and making it easy for users to adapt when new advancements are made. It also enables specific user groups to be targeted, for example older people may require different technology to be developed specifically to aid their use of CMC.

Communications of the ACM (July 1985) *“But structure should be imposed by individuals and user groups according to their needs and abilities, rather than through general software features.” (p680)*

Appendix 1 Discussion

Overall this set of results shows a very similar popularity hierarchy of which methods are used for contacting the recipient. In whichever contact group is selected the methods preferred are in the same order:

- 1) Text
- 2) Call
- 3) Email
- 4) Online Messaging

Although for each group the mean score is different. In each case the use of text is significantly preferred over each of the other methods, this is ideal for short communications, allowing quick contact. I would suspect this is the reason that it is so popular in terms of CMC.

In each case, the second most used method of contact is calling, this has is most likely the case, because it is ideal for more in depth communication. It also allows for a better understanding of what is being said through the use of voice tones, etc with less problems in interpretation such as those seen in text, email etc.

Rebecca E. Grinter and Margery A. Eldridge, **y do tngrs luv 2 txt msg?** (2001) *“Finally, we show that teenagers encounter three problems when text messaging: understanding evolving language, determining intent from content, and addressing messages.”* (p219)

Both Email and Online Messaging are the two least popular forms of CMC, in the case of email this is probably because it tends to be used in a more professional

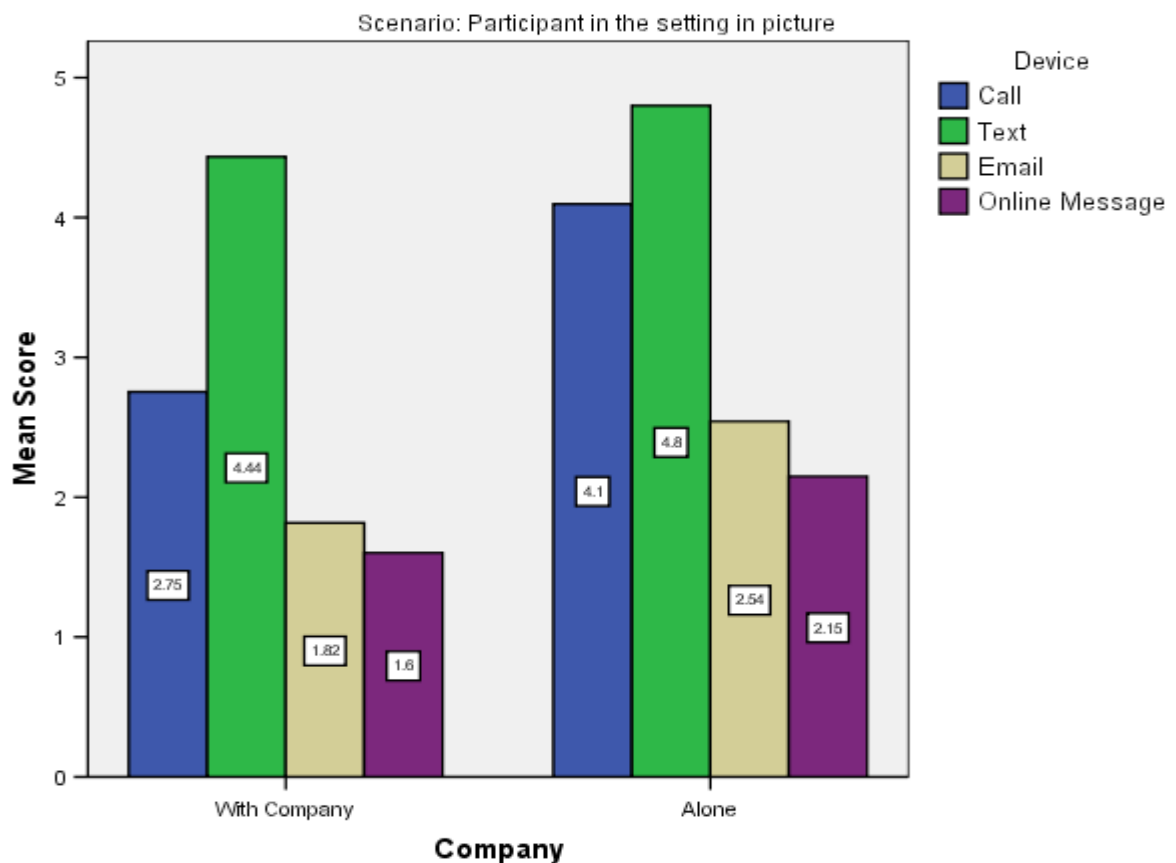
manner. Both forms of communication are open to misinterpretation, for example “I love you to” could be taken in several ways, sarcasm, serious etc.

When contacting a Friend or Family member, the methods of text (5.57) and call (4.07) are highly favoured, most likely because these are more personal, than Email and Online Messaging and allow for a higher level of communication. As opposed to contacting a Stranger/Unfamiliar Person, where the difference between the use of each method is notably less, suggesting that the contact is less personal on all levels (3.66 for text and 2.81 for calling).

Appendix 2 Discussion

As suspected the results show the same arc of popularity which was found in appendix 1.

Scenario: Participant in the setting in picture:

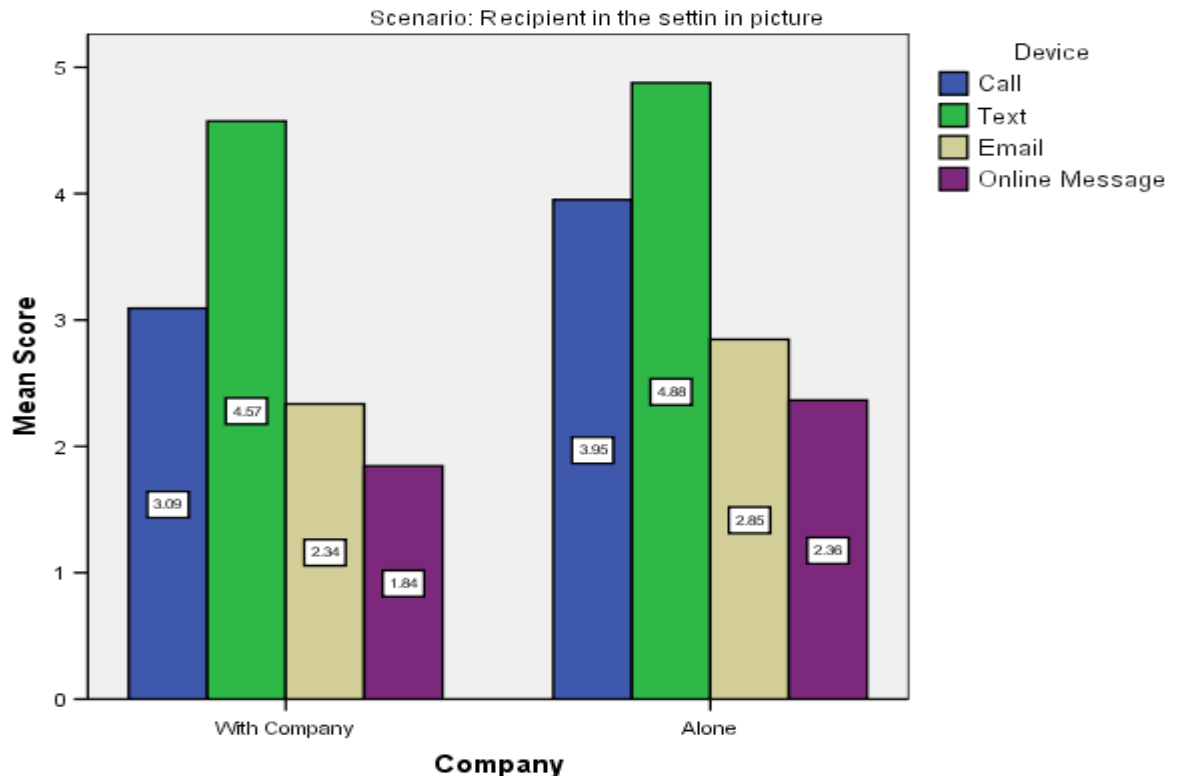


There is only a 0.36 difference between people using text when with company, and alone, this difference shows that participants prefer to text when alone, however texting is used widely in both situations.

There is a notable difference for calls, between being in company (2.75) and alone (4.1) of 1.35, this suggests that people are much more inclined to make phone calls when alone. This is probably because when alone you are able to easily locate a quiet environment, making phone calls much easier and private.

Participants also say they are more likely to use “Email” and “Online Message” when alone. This could indicate that some participants do not use mobile devices for these types of CMC.

Scenario: Recipient in the setting in picture:



There is a difference of 0.31 between the use of text when with company and when alone, suggesting that participants find it the most acceptable way to contact someone, whether they are alone or in company. Probably, as already mentioned because this is the least intrusive method of contact.

There is a difference of 0.86 between the use of calling, these results show that percipients are more inclined to use this method of CMC when they know that the recipient is alone.

The difference between the popularity of “Email” is 0.51, indicating that people are more inclined to email when they know that the recipient is alone. The difference is 0.52 for “Online Message”, which is a very similar however email is the more popular method of contact out of these two.

Comparison:

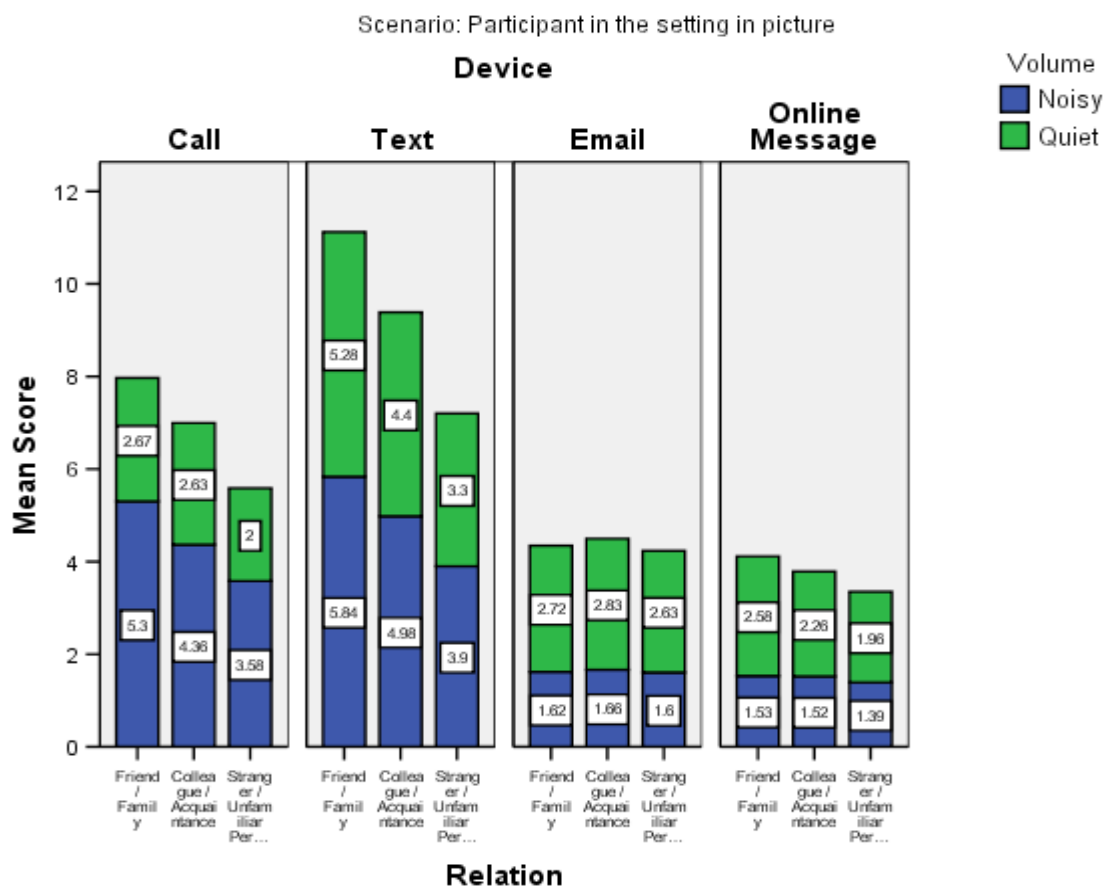
Overall the results are very similar for both scenarios, the results show that people are more willing to use each method of CMC when they know what the recipient is doing, as opposed to when they only know what they are doing. The participants are more willing to use each method when the recipient is in company, than when they are, but the same is also true for when the recipient is alone (With the exception of the call method).

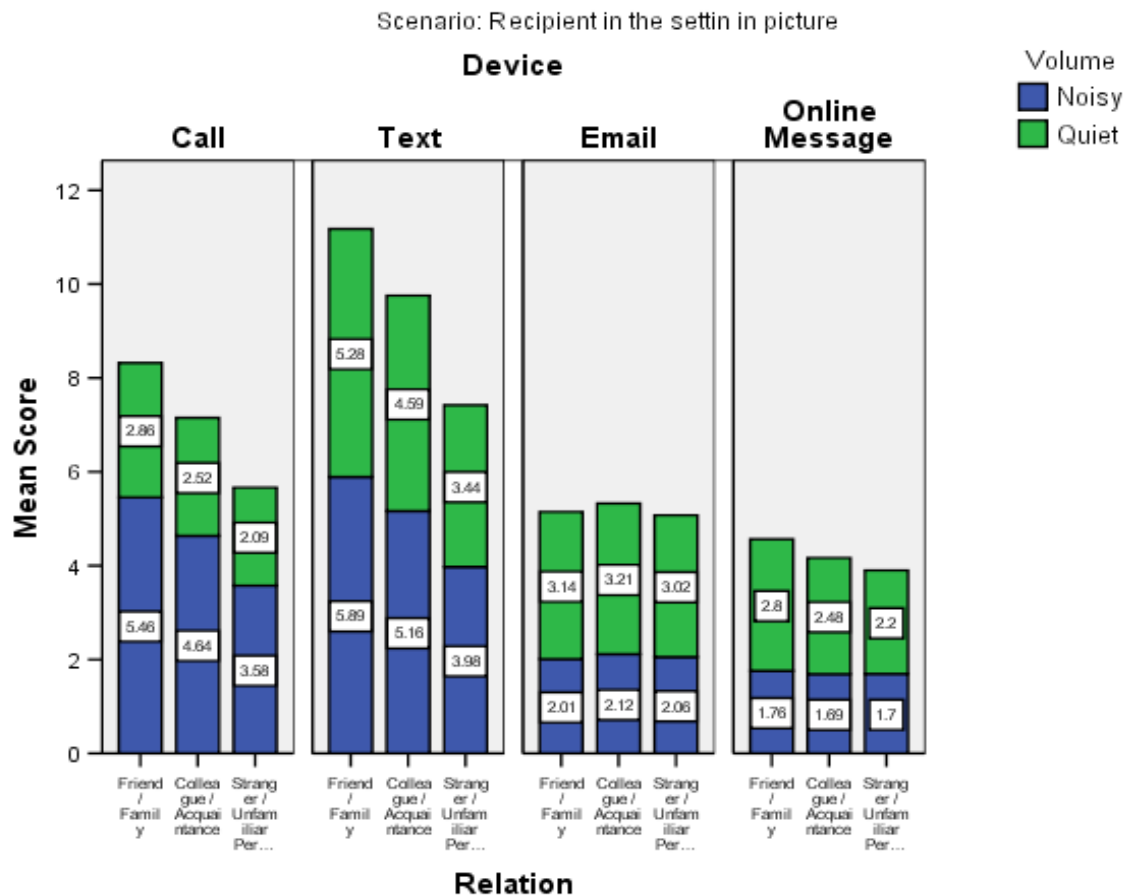
When the participant knows what situation the recipient is in they are much more inclined to use all four methods of CMC, as opposed to when they are in said situations.

They are more likely to call someone who is with company, than make a phone call when they themselves are with company. However this method is used most when the Participant is alone.

The participant is more likely to text, email or send the recipient an online message, when they know what situation they are in, with the most notable difference being with email, showing consideration for the situation.

Appendix 3 Discussion





The results seen in appendix 3 give some interesting findings, which also validate the findings from both appendix 1 and 2. The numerical results are again very similar for both participant and recipient.

When in a noisy environment the recipient is most likely to send a text message, which confirms previous findings. Text messages are convenient when in a busy environment, as they are quick to construct, and do not inconvenience the sender/receiver much. The likelihood of the participants sending a text to someone is incremental, dependant on how well they know the recipient. It is 5.28 for family, but for a stranger it is only 3.3, this displays that people tend to prefer texting people they know, as opposed to using this method of communication to contact someone new.

The results show that the participants are most likely to call someone when they, or the recipient is in a noisy atmosphere. This is especially true for friends and family, where the mean score is almost double that of a quiet environment. This reflects what would be expected of the situations presented to the participants, for example when in a cinema it is quiet, and you would not call someone. There is a very small difference in the use of call. It is considerably less likely that the participant will ring a stranger than a friend, but they are still more likely to ring a stranger when in a noisy environment.

In summary of the above two methods, participants are much more inclined to contact people via the use of call, and text communication when in a noisy environment. This being especially true when it comes to calling. Suggesting that participants favour both methods over email and online messaging.

The results for email are very similar, with a Colleague being the most likely recipient for such media, again proving previous theories that this is a more professional form of contact. Participants are considerably more likely to email when they know what situation the recipient is in. Again these results show that emails are more likely to be sent from a quiet environment, suggesting that participants may prefer to use computers to mobile email services.

Online messaging is also used more in quiet situations, especially when the situation of the recipient is known. Strangers are least likely to be contacted in this method, as with all other methods, with friends and colleagues both being the most popular groups for this form of communication.

Overall, email and online messaging is much less likely to be used than texting and calling, when in noisy situations. Which would suggest that calling and texting is a simpler option to take, with better communication results. Texting has very similar popularity in all situations, showing that this is the most appropriate method of contact within this group.

How Results Reflect Own Use Of CMC

Texting:

These results favour texting as a communication method, I would agree with this in the friend/family column, however would not use this method of CMC for contacting the other two groups as I would not want to share personal contact details with them. I would also agree that I am more likely to use this method when with company.

Calling:

These results show that calling someone is the second most likely choice, I would disagree with this as I would use it as my first choice, for example if I wanted to contact a family member I would ring them so that the communication could be more in depth.

Emailing:

The results for email are quite accurate, however I would put them as least likely for friends and family, due to the fact that I personally see email as a more formal form of communication, however I would be quite likely to use it when contacting a stranger, or colleague.

Online Messaging:

I would disagree with the results on online messaging, as I would not use it at all for Colleagues or Strangers, as I only use these types of communication with friends and relatives. For example to arrange when I will meet with someone.

The overall results are somewhat accurate however as discussed above I do have some disagreements with them, which suggest that my views on CMC is different to

the group as a whole, however I do use all four forms of communication in some manner.

Further Analysis Of Data

Older People

This section is looking at older people in the age range of 55 to 65, and their use of CMC and how the results would differ when compared to the results found in appendix 1.

Generally older people are less willing to adapt to new technologies, and in turn new communication methods. Resulting in them having access to less technologies, such as the internet, which automatically prevents them from using technologies such as email, and online messaging:

<http://news.bbc.co.uk> *“Just 28% of people over the age of 65 have home internet access, compared to a UK average of 57% of households.”*
<http://news.bbc.co.uk/1/hi/technology/5146222.stm> [Date Accessed: 27th March 2008]

Because of the above, we can assume that in general the use of at least two forms of CMC will be considerably less than that of younger people. Research is however being done upon the older generation, much like that performed for this assignment, in order to find how to develop new hardware and software to specifically target the older people. This however could be seen as singling them out, which could result in them being unwilling to accept the new technology after development. Technologies such as big button phones are available, to encourage texting, and calling, such as those sold here:

[http://onlineshop.rnib.org.uk/display_item.asp?
n=11&c=59&sc=195&id=3469&it=1&l=2&d=0](http://onlineshop.rnib.org.uk/display_item.asp?n=11&c=59&sc=195&id=3469&it=1&l=2&d=0)

The quote below shows that older people are more wary of newer technologies, this the article goes on to say is because they have already developed their social networks, which tend to be smaller than younger peoples. Due to the lack of access to technologies, even if one older person does use technology, they may be unable to contact friends etc.

Rauterberg M. et al, **Managing one’s social network: Does age make a difference?** *“People in their fifties are much more focused around family and close friends; have much smaller social networks and are more tentative in their use of newer technologies such as SMS and IM.”* (2003)

Older people with disabilities are also less likely to use technologies (This is also true for younger people however), for example arthritis may stop them using keyboards, eyesight problems may stop them viewing images etc, this is why appropriate research is done to help in these situations.

Dale Gietzelt <http://www.alia.org.au> “*Much of the Australian research on older people and technology has focused on the barriers to their embracing computers and the Internet, and the ways to overcome such obstacles. Williamson et al,5 for example, in their study of 120 older (50+ years of age) public library users in Victoria, discussed the physical barriers , such as disabilities affecting arms or fingers , that interfered with some respondents use of computers.*”
<http://www.alia.org.au/publishing/aarl/32.2/full.text/geitzelt.html> [Date Accessed: 28th March 2008]

Overall, from the research I have done, I conclude that older people are far less likely to use CMC methods, from the research (Smith, Hilary et al) **Managing one’s social network: Does age make a difference?** We can see that older people are most likely to call people than, then email them, however are very unlikely to use online messaging and text. Older people are also less likely to contact strangers, than people they already know, due to them having already formed social networks.

Younger People

This section is looking at younger people in the age group of 10 to 15, and saying how the results in appendix 1 would differ for this group.

From the below quote we can see that more younger people today than ever are using ever advancing technology, this includes many different types of technology, including CMC. Younger people tend to find it easy to adapt to advances, giving them an advantage in the field:

Ian Hutchby, Jo Moran-Ellis, **Children, Technology and Culture** (2001)
“Childhood, it seems, is increasingly saturated by technology. From television to the internet, video games to personal computers, camcorders to mobile phones, children engage with and exercise competence in a whole range of technologies in the home, at school and in the wider social world.” [p1]

The following quote is taken from a study conducted in the USA where nearly half of the teenage population own mobile phones, which 33% use to send text messages.

Amanda Lenhart, Mary Madden, Paul Hitlin, Pew Internet & American Life Project, **Teens and Technology** (2005) *“Close to half of teens (45%) own a cell phone, and 33% have used a cell phone to send a text message.” (p2)*

We can see that the group uses emails, and that email is more popular than online messaging, however they are said to prefer online messaging when contacting friends

Amanda Lenhart, Mary Madden, Paul Hitlin, Pew Internet & American Life Project, **Teens and Technology** (2005) *“The presence of email in teens’ lives has persisted, and the number that uses email continues to surpass those who use IM. However, when asked about which modes of communication they use most often when communicating with friends, online teens consistently choose IM over email in a wide array of contexts.” (p2)*

Overall a very small amount of the group use email, with 24% preferring to use online messaging. However, the use of calling is by far the most popular choice.

Amanda Lenhart, Mary Madden, Paul Hitlin, Pew Internet & American Life Project, **Teens and Technology** (2005) *“Overall, when asked about how they prefer to communicate with friends, just 5% of all online teens say they most often choose email to communicate with friends. In comparison, nearly five times as many teens (24%) prefer instant messaging when talking with friends. Nonetheless, the telephone remains the tool of choice for the majority of teens....”* (p2)

The results above were also mirrored in a study (Schiano et al) **Teen use of messaging media**. From this we can see that these age groups prefer to call people over other methods, compared to text being the most popular method for appendix 1. They also use email and online messaging to a large extent, with instant messaging being the more popular of the two, unlike from the results seen in appendix 1. We can also see that texting is quite popular amongst this group, but that not all participants owned a mobile phone.

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