Taking up opportunities? Children's uses of the internet for education, communication and participation

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Acknowledgements

This article draws on findings from the *UK Children Go Online* research project (see www.children-go-online.net). The research is funded by an Economic and Social Research Council grant (RES-335-25-0008) as part of the 'e-Society' Programme, with co-funding from AOL, BSC, Childnet-International, Citizens Online and ITC. Thanks are due to the project's Advisory Panel for their support: Camille de Stempel, Karin Sieger and Simon Kinnersley (AOL), Andrea Millwood Hargrave (BSC and ITC), Nigel Williams, Stephen Carrick-Davies and Mary Louise Morris (Childnet-International), John Fisher (Citizens Online) and John Carr (NCH and CHIS). Also thanks to the project's Children's Panel for their discussions and guidance which informed the design and interpretation of the survey. Lastly, thanks to Bridget Williams, Susan Kay and Taj Sohal from BMRB, and to Ellen Helsper and Peter Lunt for their contribution to the preparation of the findings.

Abstract

The research project, *UK Children Go Online* (UKCGO), is conducting a rigorous investigation of 9-19 year olds' use of the internet, comparing girls and boys of different ages, backgrounds etc., in order to ask how the internet may be transforming, or may itself be shaped by family life, peer networks and school. It combines qualitative interviews and observations with a major national survey of 9-19 year olds (N=1511) and their parents (N=906). This paper focuses on two of the key opportunities the internet affords to children and young people: first, education, informal learning and literacy and, second, communication and participation. The survey charts how central the internet has become in young people's and children's lives as an information medium to support school work, although it is not seen as a wholly unproblematic learning tool. Children and young people alike encounter difficulties with searching the web, with the critical evaluation of website contents, and with a range of other online skills, and these in turn appear due to the patchy educational support they have received in internet literacy teaching. While education and learning represent the 'approved' uses of the internet, which is often the reason for which parents and governments invest in domestic internet access, children and young people themselves are far more excited by the internet as a communication medium. Both internet (instant message, email, chat) and mobile phone (talk, text) are mostly used to contact friends that live locally and, through skilful choices regarding the nature of these technologies in relation to the purposes of the communication, they are employed to manage the intimacy, embarrassment or privacy demands of such communications. Hence for many, mediated communication is by no means seen as less satisfactory than face-to-face communication. Although such communication sustains the peer network, it does not necessarily generate a wider interest in community or civic participation, although over half have shown some interest in such web content. However, not all the opportunities available to children and young people are being taken up equally. Hence the paper concludes by charting the emergence of a new divide, signalling emerging inequalities in the quality of internet use, with children and young people being divided into those for whom the internet is an increasingly rich, diverse, engaging and stimulating resource of growing importance in

their lives and those for whom it remains a narrow, unengaging if occasionally useful resource of rather less significance.

Growing access to online opportunities

In many industrialised nations, the internet is no longer solely a resource for privileged early adopters and is now becoming widely available in the mass market, although significant social inequalities in access remain. Following rapid diffusion through the late 1990s, around one in two children and young people in the UK had gained domestic access to the internet by the start of the twenty-first century, with most schools also providing access to pupils, even though the nature of school use varies considerably. Recent figures show that 98% of children and young people in the UK have by now used the internet in one place or another (Livingstone & Bober, 2004). Interestingly, this figure represents around twice that of the adult population. In the UK, 58% of adults aged 16+ had used the internet by February 2004 (ONS, 2004). This figure is lower than in the US where 71% of Americans aged 12+ went online in 2002 (UCLA, 2003).

In short, the internet has only very recently left the confines of the workplaces of the professional middle-classes to find a place beside the television as a household resource. The consequence of this technological diffusion is that the internet is becoming taken for granted in our lives, and is seen as integral to our daily routines and central to our visions of a good school, an active community, a comfortable home. In a survey of 6-17 year olds conducted just a few years ago in 1997, only one in five had used the internet, and another one in five had not even heard of it. Even among those who had, their understanding was limited. Back then one little girl asked, “Isn’t it something you plug into the back of the TV?” (Livingstone, 2002). Today, knowledge of the internet has grown considerably as access at home and school have become commonplace for many, though still not all. Nonetheless, the extent to which people are, in practice, taking up the much-hyped opportunities of the internet remains less than clear, with systematic data still greatly lacking, especially for children and young people.

Also unclear is whether the opportunities facilitated by the internet represent a significant change in young people’s lives or, less dramatically, simply a new means of achieving familiar ends. Some commentators in the field stress historical continuities, being sceptical of utopian and dystopian claims for a technology-led future and critically

questioning whether and in what ways everyday life may be undergoing a radical change. After all, the historical lesson of once-new media is one of gradual diversification or repositioning of media rather than the wholesale displacement or transformation of previous ways of life. Such an approach encourages an examination of the contexts of media use – in terms of the family and childhood, leisure and lifestyles, youth culture and consumer culture, work and education, and social values – all of which are simultaneously undergoing gradual change in a manner that intersects, with and shapes the conditions of, internet use (see Bolter & Grusin, 1999; Marvin, 1988; Winston, 1996).

By contrast, other commentators postulate more radical change, seeing the internet as a facilitator of larger social, cultural, political and psychological transformation, whether towards the network society, the post-modern condition, or a dystopian nightmare (see Kellner, 2002; Poster, 2001; Turkle, 1995). This position extrapolates from early indications of the innovative nature of internet content and use to advance some imaginative visions of the future, particularly stressing the blurring or reconfiguration of those once-significant boundaries between entertainment and education, work and leisure, public and private, local and global, and producer and consumer. It adds a sense of urgency to the debate, for an intelligent anticipation of future developments will aid the timely formulation of internet related policy, products and practices, just as a misreading of the early signs may misguide or confuse matters.

In this paper, we seek to steer a course between these polarised approaches by charting empirically the unfolding relation between continuity and change. In this, we are guided not only by prior analyses of trends in internet content, services and use but also by a 'child-centred' focus that regards children as active and interpretative (though not necessarily highly sophisticated) agents who appropriate and shape the meanings and consequences of the 'new' through a series of established and novel social semiotic practices (Livingstone, 1998). Whether information and communication technologies are incorporated into the ongoing stream of social life or whether they reorient or open up alternative trajectories, the new media depend on the beliefs and actions of their users to activate particular trajectories over others and to give them meaning and value in daily life. Thus, we seek an account of how children and young people themselves play a role – through their imaginative responses, their informal activities, and the social practices of

daily life – in establishing the emerging uses and significance of the internet (see Buckingham, 2002; James et al., 1998; Seiter, 1999).

Methodology

The research project *UK Children Go Online* (UKCGO) is conducting a rigorous investigation of 9-19 year olds' use of the internet, comparing girls and boys of different ages, backgrounds and so on, in order to ask how the internet may be transforming – or may itself be shaped by – family life, peer networks and learning, both formal and informal. It combines qualitative interviews and observations with a major national survey of children and young people (users and non-users) and their parents. The project aims to balance an assessment of two areas of risk with two areas of opportunity in order to contribute to developing academic and policy frameworks regarding children and young people's internet use, namely (1) access, inequalities and the digital divide; (2) undesirable forms of content and contact; (3) education, informal learning and literacy; (4) communication, identity and participation. In the present paper we focus on the two second areas of concern: the putative opportunities of internet use associated with education, literacy and learning and community, identity and communication (see also Livingstone & Bober, 2003; 2004; and www.children-go-online.net).

Despite the growing number of surveys conducted on adult populations, particularly in Europe and North America, few independently-conducted surveys directly ask children or young people (rather than adults speaking for children) about their internet use. This may be because research with children and young people places some distinctive requirements on the research process, particularly in relation to informed consent, the formulation of survey questions and research ethics (see Greig & Taylor, 1999; Livingstone & Lemish, 2001). However, since children and young people are widely seen to be 'ahead' of adults in their internet expertise, and since they are often motivated to conduct their internet use away from the eyes of concerned adults, the reliability of findings obtained by asking adults to report on the activities of children and young people must be questioned (see Livingstone & Bober, 2003). Most research conducted directly with children and young people tends to be small-scale, qualitative

work (see Livingstone, 2003). Hence, a large-scale, in-depth, national survey conducted with children and young people face-to-face in UK homes, together with a survey of their parents or caregivers, is timely.

With a timetable running from April 2003 to April 2005, the *UK Children Go Online* research design is made up of three phases. Phase one included 14 focus group interviews with 9-19 year olds in summer 2003, nine family visits and in-home observations in 2003/4 and a children's online advisory panel. Phase two consisted of a major national, in-home, face to face survey of 1,511 9-19 year olds and 906 parents of the 9-17 year olds across the UK. This survey group was selected using Random Location sampling procedures (see Table 1). The fieldwork, conducted via multi-media computer-assisted personal interviewing (CAPI) with children and a paper questionnaire submitted to their parents, took place between 12 January and 7 March 2004. The percentages reported in this article have been weighted in accordance with population statistics, though sample sizes are reported as unweighted. Phase three of the project will follow up quantitative findings from Phase 2 with focus group interviews and observations in autumn 2004 and will see a revisiting of the children's online panel.

--- Insert Table 1 about here ---

Education, informal learning and literacy

The UK Government's recent report, *UK Online* (Office of the e-Envoy, 2004), proposes that the traditional requirement for all children to be taught literacy and numeracy in school should be expanded to include ICT skills – in recognition of the growing importance of such skills, including internet skills – to young people's education and future employment. This report makes this a good moment to identify the baseline in terms of current ICT education and expertise among children and young people (see also Pew 2001a). The *UK Online* report states:

> Nowhere is the importance of sophisticated ICT skills clearer than in the recent DfES White Paper '21st Century Skills, Realising Our Potential'. It makes a

> commitment to help adults gain ICT skills as a third skill for life alongside literacy and numeracy. DfES' aim is to enable all adults to have the ICT skills they need to learn effectively online, become active citizens in the information age and, with 62% of adults stating that ICT skills are essential to their current or future job, contribute productively to the economy." (Office of the e-Envoy, 2004: 11)

The survey findings show that the internet has rapidly become central in young people's and children's lives as an information medium to support school work. In 2001, 54% of 11-18 year olds used the internet for schoolwork, rising to 83% in 2002 (Becta, 2002). The UKCGO survey found that among 9-19 year olds who go online at least once a week (N=1,257), 90% use the internet to do work for school or college (see Figure 1). Furthermore, 60% of 9-19 year olds in full-time education regard the internet as the most useful tool for getting information for homework (compared with 21% who say books, 11% who say parents, 3% who say CD-Roms, 2% friends and 1% television).

--- Insert Figure 1 about here ---

While the internet is preferred over other media, it is not seen as wholly unproblematic as a learning tool. Consider the focus group discussion among these 14-16 year old boys from London:

Interviewer: Okay. Let's start with that idea, so it's said the internet helps you with your school work.

Elkan: Not really…

Interviewer: Yeah, I'm just wondering how true that is. What do you think Faruq?

Faruq: That isn't really true. Mostly we use it, mostly for what you want to know. Say, it does help you with school with subjects, depending on what the information you want, some subjects like geography and things that you can look around the world. Geography's a good example of the internet. You can do some research about other cultures and other communities.

And that's when you can go around on it. And mostly like things like English, Maths, it's not…

Interviewer: It's not so useful. OK.

Prince: To really understand for people of our age group, we don't really use the internet to do like research most of the time. You're just on the internet to look for football news and things like that.

Interestingly, the youngest (29% of 9-11 year olds) and the oldest groups (31% of 18-19 year olds) are more likely to choose books to help with their homework than the other groups (15% of 12-15 year olds and 21% of 16-17 year olds). These groups are least likely to have access to and make use of the internet. Compared to this, parents think that books are most likely to help their child do better at school (82%), followed by the internet (73%), the computer (40%), and television or video (22%).[1] The implication is that those who have most access have learned the benefits of the internet, or perhaps the 12-17s (i.e. secondary school pupils) are taught more internet skills in school.

We pursued the question, in both the focus groups and the survey, of how children and young people learn to use the internet. Many emphasised the importance of informal over formal learning. As Kim (15, from Essex) explained, "I think it's better to do like trial and error because you can like learn from the mistakes from it, and you can find new places and stuff, for different sorts of things". And some found their school offered less support than might be hoped: "I think I picked it up – well, my old secondary school didn't really have internet access. So I was never really taught much about it there. But I mainly picked it up from friends" (Lorie, 17, from Essex). Indeed, social rather than educational contacts are often crucial: "If I get stuck on it, I always go and ask my brother because he's like started a job in computers like that. Or I ask my dad because he's worked with computers for years, basically his whole life. So if I don't know stuff, I go and ask them. I never ask my mum 'cause she, like, she doesn't know that much about them really" (Claire, 15, from Essex).

Hence, it seems that children often prefer to learn how to use the internet informally by playing around with the medium and working things out for themselves. This resonates with a long-standing debate within education circles about the benefits of

experimentation and free play compared with more structured teaching (see Kellner, 2002; Livingstone, 2002). In the survey, when we asked who has helped them use the internet (and allowing multiple responses to this question per respondent). Two thirds (66%) of 9-19 year olds who go online at least once a week said a teacher helped them; for almost half of them (44%) it was a parent, for a third (33%) it was friends and for 17% it was siblings. A further 4% claim to be self-taught, and 3% learned from a website or an online course. So, for many of these respondents, the school does have some role to play:

Interviewer: When someone says they've learnt to use the internet, what can you describe what they've learnt? What skills? Or knowledge they've got?

Stuart: They learn about search engines and all them and the actual internet as a whole. Or they use it, just develop to use it, learn to use it, over the years.

Interviewer: Do you get taught here about the internet, or have you just kind of picked it up through using it?

Stuart: I've picked it up through GCSE, I reckon. It's not complicated really. You only need to know about search engines and that.

Shannon: We used to do it in school. We used to go through it all and…

Interviewer: Right, and do they then get you to kind of learn through…

Shannon: Through a piece of work, and we have to go through the internet and look things up and that.

(17 year olds from Manchester)

Note in this interview, however, that these teens find it difficult to specify exactly what they have learned about the internet, adding to the sense that one 'just picks it up', whether at home or school, rather than entering into a formal curriculum of internet skills.

The survey confirmed the overall impression from the qualitative work of considerable variation in the formal teaching of internet skills or internet literacy. Of

those in full time education (N=1,326), the majority of children and young people have received lessons on how to use the internet; 23% report they have received ‘a lot’, 28% ‘some’ and 19% ‘just one or two’ lessons. However, nearly one third (30%) report having received no lessons at all on using the internet. It might be expected that these children may have lessons yet to come in the curriculum; however, our data strongly suggest it is teenagers who are less likely than younger children to have been taught how to use the internet at school. Only 19% of 9-11 year olds say they have had no lessons in how to use the internet, compared with 26% of 12-15 year olds, 45% of 16-17 year olds and 51% of 18-19 year olds in full-time education. Not surprisingly, 69% of non-users claim to have received no lessons, yet 36% of daily users also report receiving no lessons in internet use. The lack of lessons matters to both groups, for while the former group risks digital exclusion from educational and other online opportunities, the latter group risks the dangers of ill-informed or inappropriate uses.

Just what is this online expertise or internet literacy? Research in this field is currently seeking to develop objective levels of online expertise, notwithstanding users’ own relative incoherence in outlining these skills. While it is important to determine which skills matter and why, research also suggests that the perception of oneself as more or less expert online matters as much, if not more, than actual levels of expertise. Such internet self-efficacy or internet confidence appears to have consequences for internet use (see Eastin & La Rose, 2000; Torkzadeh & Van Dyke, 2001; 2002). Perhaps unsurprisingly, most children and young people (56%) who use the internet at least weekly consider themselves ‘average’ in terms of their online skills, though one third (32%) consider themselves ‘advanced’ (see Figure 2). Slightly more boys (35%) than girls (28%) consider themselves ‘advanced’, suggesting greater levels of confidence and, perhaps, skill among boys. The age differences are more strongly marked, with judgements of one’s own skill rising sharply with age. Those who claim either beginner or expert status vary little by demographic variables.

--- Insert Figure 2 about here ---

Parents are more modest about their own skills on the internet than are children. Moreover, parents are a little more sceptical about their children's skill level than are children themselves (see Figure 3). Among parents who use the internet, 28% describe themselves as beginners compared with only 7% of children who go online at least once a week. Half (52%) of parents consider their skills average, and only 12% consider themselves advanced compared with 32% of children. Even though parents agree that children are more advanced than they are and that fewer of them are beginners, they still consider more children to be beginners and fewer to be advanced than do the children themselves. This apparent skills gap between less-expert parents and more-expert children poses an interesting challenge to parents' ability to guide their children's internet use. As Nina (17, from Manchester) observes scathingly, "My dad hasn't even got a clue. Can't even work the mouse … so I have to go on the internet for him".

--- Insert Figure 3 about here ---

What kinds of skills have children and young people in mind when they describe themselves as good at using the internet? The UKCGO survey compared the skills of parents who have used the internet with the skills of children who use the internet at least once a week (see Figure 4). Finding information is the key skill associated with internet use and one in which both children and young people (87%) and parents (77%) are confident, though not all claim such skills: Heather (17, from Essex) complains that, "Every time I try to look for something, I can never find it. It keeps coming up with things that are completely irrelevant … and a load of old rubbish really". Generally, however, in finding information, as in most other online activities, children and young people claim a higher level of competence than their parents. This is most apparent in relation to sending an instant message, something that 44% of children and young people but only 28% of parents feel able to do, in fixing a problem (40% of children and young people, 21% of parents) and downloading music (34% of children and young people, 12% of parents). Only one third of children and parents feel able to set up an email account, and less than a fifth are able to set up a filter or remove a virus. Since only a fifth of parents feel able to fix a problem if it arises, it is evident that parental levels of

confidence and competence in managing the home internet environment are fairly – and perhaps problematically – low.

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Given the enormous variation in nature and quality of information available online, a crucial skill that all users must acquire is that of determining the quality and worth of the information they find. Unlike for print media, where quality thresholds, gate-keeping checks and editorial standards are customary, editorial standards are much more variably applied to online texts, placing greater demands on children to evaluate the quality and reliability of such texts themselves. This is by no means easy, as Faruq (15, from London) told us: "It's like you don't know who's doing what, whose website it is, who wants what, who wants you to learn what. So you don't know who's put what information there, but … it's reliable – but you don't know who's put it, who wants you to gain what from that information." Hence, critical literacy is a vital part of ICT and media literacy skills, with trust emerging as a central issue in navigating the online environment (Livingstone, 2004). Most children and young people we interviewed in the focus groups appeared to be ignorant of the motives behind the websites they were using, and many, it was clear, had not thought about this question at all. Only a few were aware of the commercial interests or strategies at stake (see also Montgomery & Pasnik, 1996; Turow, 2001). Indeed, our qualitative work provided a range of examples in which children were unclear or confused about when online information is trustworthy and how to discriminate between different kinds of websites – which could be commercially-motivated, politically-biased or simply of poor quality.

This confusion over trust is confirmed by our UKCGO survey. Of all 9-19 year olds currently in full-time education (N=1,326), half think that some of the information on the internet can be trusted (49%), 38% trust most of it, 9% trust 'not much of it', and 1% trust none of it. The four in ten children who trust most online content indicates, at the very least, the scale of the challenge for media or internet literacy programmes. Furthermore, for the 49% who think some of the information can be trusted, one must ask how they make such a discrimination and whether it is well-founded. A sceptical attitude

is of little value unless one is equipped with some means to act upon this scepticism by discriminating between the trustworthy and the problematic.

Given the popularity of search engines, which are the most-visited websites among 71% of 9-19 year olds who go online at least weekly, we also asked about strategies for and outcomes of internet searches. Only 22% of 9-19 year olds who go online at least once a week say they always find what they are looking for. The majority (68%) usually find the information they need, 9% say they can't always find it, and 1% say they often cannot find information relevant to their needs. While searching, the majority (41%) only look at the first ten sites on the list, but an almost equal proportion of young people (37%) say they compare information across several sites to make sure it is reliable, and one in five (19%) check when a site was last updated.

Only 33% of 9-19 year olds who go online at least once a week say that they have been told how to judge the reliability of online information. Among the parents of 9-17 year olds, only 41% are confident that their child has learned how to judge the reliability of online information. Since two thirds of children and young people who go online at least once a week claim to have received no advice or explicit instruction on evaluating online information, the introduction of some guidance for all is an obvious and urgent first step (especially as many parents also struggle with these discriminations, making it difficult for them to advise their children). Going beyond this, to ensure that all children become competent and informed in weighing the value of the vast range of online resources is a vital if longer-term priority for the education system.

Communication, identity and participation

Undoubtedly, children and young people welcome the internet as providing new, expanded, and more stimulating opportunities for education and learning, notwithstanding that some of their internet literacy skills are not strong. However, education and learning represent the 'approved' uses of the internet and the reasons why parents have invested in the computer and internet access at home and the end to which so much government policy and infrastructure has been directed. Children and young people themselves are, as considerable public attention has noted, far more excited by the

internet as a communication medium than as a learning resource. Why this should have proved surprising is a little mysterious, but as with the mobile phone and short message services, it is email, chat and, especially, instant messaging that has taken off so rapidly in recent years, leading many to identify the internet as a young person's technology precisely because of the transformation it appears to be having on their language, on the conduct of social relationships and on the peer network in general (see Danet, 2001; Crystal, 2001; Grinter & Eldridge, 2001).

Education can be characterised as a self-evident 'public good', raising the question for research of whether all young people are gaining the benefits of educational opportunities. By contrast, the social 'good' that results from more communication is less clear. Does online communication bring new opportunities, new benefits to young people, and if so, what are they? Is something lost as online communication perhaps displaces face-to-face communication (Kraut et al., 2002)? Or, does it change little, merely shifting online what was previously done offline? We explored these questions in both the focus groups and the survey. On a methodological note, we observe that while the focus group segments addressing education flowed fairly smoothly, young people were far more enthusiastic in discussing the possibilities and practices surrounding communication.

In their everyday lives it is already apparent that the internet represents a significant addition to the existing array of means by which children and young people communicate with others, with both email (72%) and instant message (55%) being highly popular. Chat rooms are used less (21%) (see Figure 1, above). The internet arrived in these young people's lives at more or less the same time as mobile telephony, and the former is, notably, rather less widely used than the phone (fixed or mobile). Even among those who use the internet at least once a week, 95% use the telephone, and 81% send and receive text messages (see Figure 5).

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Our UKCGO survey shows that the mobile phone is already overtaking the desktop computer as a prioritised means of communication (see Figure 6). Rosie (13,

from Derbyshire) speaks for many when she says, “My mobile phone is like a necessity to me now. I have to have my phone with me all the time. If I forget my phone, I’m scared something would happen to it”. Hence the mobile phone enables children and young people to be in contact with their friends from anywhere, by comparison with which the still-fixed location of the desktop computer and internet connection is an important constraint (see Ling, 2000). Indeed, across all activities – passing time, making arrangements, getting advice, gossiping and flirting – the phone (both fixed and mobile) and text messaging score higher than emailing or instant messaging.

--- Insert Figure 6 about here ---

These communication technologies are mostly used to contact friends that live locally and, to a somewhat lesser extent, friends living further away (see Figure 7). The phone and text messaging are particularly preferred, it seems, as means of getting in touch with friends nearby while email and instant messaging are used for friends whether nearby or further away. ‘Local’ is the key term here, for, as the integration of on and offline communication implies, it appears that most contacts are local rather than distant (or ‘virtual’), and are not strangers. This is especially the case for the telephone and text messaging and least the case for online chat. As Kim (15, from Essex) explains, “Even if you’ve just seen them at school like, it’ll be like you’re texting them or talking to them on the phone or on MSN”. Rosie (13, from Derbyshire) agrees, though she prefers email, no doubt because it is cost-free: “I email my best friend in the evenings ‘cause like, sometimes, she’s just like, she’s been at my house for tea or something. She goes home and goes straight on the internet, and we’ll email each other again.”

--- Insert Figure 7 about here ---

However, the internet does permit some broadening of everyday networks, strengthening already-existing relationships which are otherwise hard to maintain – friends from abroad, distant relatives, staying in touch with people who have moved and adding local contacts within the peer group whom they may not have previously got to

'know'. As young people add these 'friends of friends' to their buddy or address lists, it may be that online and mobile communication is resulting in a transformation of young people's networks (see Clark, 2003; Ling, 2000, Livingstone & Bober, 2003). Interestingly, given the public anxieties expressed in the press, the number of chat room users is small compared with other online activities (21% of 9-19 year olds who use the internet at least once a week), but it is mainly here that contact takes place with people that children have not met face to face. Hence, it seems that young people are using both on and offline communication to sustain their social networks, moving freely between different communication forms (see Drotner, 2000; Pew, 2001b). Moreover, such access to new communication technologies is facilitating new opportunities for communication within one's existing social circle but not necessarily opportunities to expand that social circle.

Why has online and mobile communication proved so popular? Why, particularly, might some young people choose to communicate with others – friends, family or other people – online instead of face-to-face? We suggest that the choices underlying young people's uses of the media are highly complex, depending not only on the features of the medium but also on the purpose of a communication. Public (i.e. adult) discourse tends to judge online communication against a ideal of face-to-face communication. However, it seems that rather than accepting the supposed superiority of face-to-face communication, children and young people evaluate the different options as superior for different communicative needs. Hence, children and young people themselves consider a wider range of options – face-to-face, writing, email, instant message, chat rooms, telephone, SMS – and they judge them according to a range of criteria (such as cost, privacy, wanting closeness or deliberately keeping a protective distance to avoid embarrassment). As Stuart (17, from Manchester) describes, "Text message – if you want to speak to them immediately. 'Cause email, they've got to be on the internet, they've got to see it. For emergencies. And for convenience". Beatrice (13, from Essex), regards her choices slightly differently but still relishes the opportunity for choice of medium: "Emailing, I just do it like if it's not a long bit to say and not a short bit to say … But text messaging I just ask questions – it's just short questions. And phoning, I just have a long conversation with people, about nothing really."

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Figure 8 shows some of the views that those 9-19 year olds who use chat, email or instant messaging (IM) hold about online communication. Half (53%) of email, IM and chat users agree that talking to people on the internet is less satisfying than in real life; a third think it is at least as satisfying. For some, there are advantages of communicating online: 25% think that it is easier to keep things private online, 25% feel more confident talking on the internet, 22% find it easier to talk about personal things online and, as we also found in the focus groups, some (17%) enjoy being rude or silly online. Beatrice (13, from Essex) illustrates this point also when she explains, "When you're like talking to them face to face, you're like – you've got other people around you, and they can't tell you what they really think. So like instant messaging, you can".

In sum, approximately one quarter of children and young people identify some significant advantages to online communication in terms of privacy, confidence and intimacy that they may not find offline in face to face communication. This has particular consequences when it comes to seeking advice online. A variety of organisations have sought to provide reliable and confidential online advice for children and young people, hoping to capitalise on the perceived benefits of online communication among young people, not only for sustaining contact with people one already knows but also for feeling more confident or talking about personal things online. The evidence that these sites are successful across the population as a whole is less than clear. In the focus groups with children, we found that young people differ among themselves in whether the internet represents a useful way of getting advice on personal problems (such as family, relationships, health or sexual matters) via specialist websites or online communities. For some, seeking advice online is less embarrassing as it can be done anonymously, as these 17 year old girls from Manchester discuss:

Nina If it was something you didn't want people to know about, then you'd probably say it in a chatroom because they don't know you, and you can just forget about it once it's gone.

Shannon	They have a website called healthyplace.com.
Interviewer	Right. Tell me about that.
Shannon	If you have a problem, my friend goes on it, she has loads of problems, and she goes on it, and they talk to her and give her advice.
Interviewer	And is that better for her, do you think, than asking her parents?
Nina	I think it's good 'cause you don't have to go through the embarrassment afterwards.

On the other hand, most children said that they preferred to speak face-to-face to people they knew, such as friends and family, and older respondents particularly were not convinced that online conversations would stay private. In the UKCGO survey, a quarter of 12-19 year olds who use the internet at least weekly (25%) reported going online to get personal advice (see Figure 9). Online advice-seeking was slightly higher among the older age groups (29% of 16-17 year olds and 32% of 18-19 year olds) and among boys (26%) than girls (23%). Girls rely more heavily on teenage magazines with their well-known problem pages (29%), an option that barely exists for boys (9%). Among 12-19 year olds who go online at least once a week and who use the internet to get advice (25%); most look for advice related to school or work (65%), health (31%), relationships (23%), sex, contraception or pregnancy (22%), money (14%), family problems (13%) and 'coming out' or being gay (2%). On the other hand, those who do not go online to get advice (75%) mostly say that they prefer to talk to someone they know (67%), 25% prefer to talk face-to-face, while 17% do not think the advice would be reliable, another 17% think the wrong people might get personal information about them, 9% think that someone might see or find out what they said, and 7% think the other person or advice website would not understand their situation.

--- Insert Figure 9 about here ---

According to what criteria would we say that online communication encompasses not only private, personal or peer-to-peer communication but also public, community-

oriented or civic participation? What activities might young people pursue, and what would be a socially desirable or even optimal level of engagement? The internet has been hailed as the technology to bring direct participatory democracy to the masses, enabling citizens to become actively engaged in the political process (see Bentivegna, 2002; Coleman, 2003), yet determining whether the internet is facilitating public participation is no easy matter. Lorie (17, from Essex) rebuts the enthusiasts of e-democracy when she says caustically, "At the end of the day, you're going to look at what you're interested in. And if you haven't got an interest in politics, you're not going to get one from having the internet". Generally, the young people we interviewed in the focus groups were rather disillusioned about or uninterested in the possibility of political participation via the internet. Over and again the conversation flagged when we turned from communicating with friends to the idea of communicating in order to connect to the world of politics via the internet. As Heather (17, from Essex) asks with some cynicism, "Yeah, you can email your MP, but is he going to listen?" Such a view incenses Milly (15, from Essex), for she argues, "I really don't understand how people could have said that they aren't interested in politics! What about the 'Don't attack Iraq' rallies and marches? There was a massive under-18 turn out. What about the banning of live music without licensing? What about the massive probability that everyone in the UK will have ID cards within the next 5 years! What about national curfews for under 18s!" Yet Heather's point is less that young people are not interested but that young people are not listened to, and the internet – for many – no more facilitates politicians listening to young people than do the various face-to-face or traditionally mediated forums of political engagement.

Since the very term 'politics' seemed a 'turn-off' to our young interviewees (see also Barnhurst, 1998; Kimblerlee, 2002; Montgomery et al., 2004), in our UKCGO survey we asked instead about a range of sites of a civic or political nature that young people might visit and interact with, though without explicitly using the term 'political participation' (see Figure 10). This showed that, when it comes to actively seeking out information about political, environmental, human rights or other participatory issues, some two fifths (42%) of 12-19 year olds who go online at least once a week have not visited relevant websites. Just over half (55%), however, have sought out such information, saying that they visited sites for charities (27%), environmental issues

(22%), the Government (21%) and human rights (18%), with a further 14% visiting sites concerned with directly improving young people's educational or working conditions.

--- Insert Figure 10 about here ---

What do they do when they visit sites like these? We asked those 12-19 year old internet users who have visited such sites whether they had made a contribution on such sites during their visit. The majority replied that they had just 'checked out' the website (64%). Some of them had sent an email (18%), voted for something or signed a petition (12%) or joined a chat room (5%). Political and civic sites are, in short, more a source of information than an opportunity to become engaged for all but a minority. As for those who never visit political or civic sites, most (83%) say that they are not interested in these kinds of issues. Other reasons include thinking that these sites are not intended for children or young people (6%), that they themselves are too young to find out about the issues covered (4%), that they do not trust or respect political organisations (4%) or do not know how to find these sites (2%). If we take young people's words at face value, their lack of online political participation would appear to be due to a general lack of interest – rather than to more specific problems such as website design, or trust, searching techniques – in politics as represented online. This is not to say that better designed websites could not succeed in drawing young people into political participation, but at present this is certainly not occurring, at least for half of all teenagers in the study. This apparent lack of interest is confirmed when we asked if young people discuss such political or civic issues peer-to-peer on the internet. More than half (56%) of email, IM and chat users aged 12-19 (N=828) say they never talk about these issues with anyone by email, IM or chat. However, 14% have done so once or twice, 24% sometimes and 4% often. At least when they talk to each other about such issues they can hope to have their voices heard.

Conclusions: A new divide?

Notwithstanding the rapid diffusion of the internet through developed societies, a sustained public debate on the nature and provision of the opportunities of internet use for children and young people is lacking. Most would agree, however, that such opportunities should go beyond access to the range of pre-packaged, highly commercialised entertainment and information content that so many businesses are seeking to develop and target at children and young people. Rather, online opportunities should surely engage children creatively, support their social, intellectual and personal development and facilitate their active and critical participation in social and civic forums. How all this can be achieved, particularly given the diversity among children and young people themselves – in terms of age, gender, background, interests and expertise – remains a key challenge for all concerned with the provision of contents and services mediated by the internet.

At present, we have found that although the internet has already become important in children's and young people's lives as an information medium to support school work it is not seen as a wholly unproblematic learning tool. Young people encounter difficulties with searching the web, with the critical evaluation of website contents and with a range of other online skills, and these in turn appear due to the patchy educational support they have received in internet literacy teaching. More educational support on internet-related skills, especially going beyond basic skills to encourage development of critical literacy skills online is urgently needed. Attention is also needed to the distinction between information-based and communication-based uses of the internet. While education and learning represent the 'approved' uses of the internet – the reason why parents and governments invest in domestic internet access – children and young people themselves are far more excited by the internet as a communication medium. Perhaps also, although the former are strongly prioritised by schools, by and large restricting communication to out-of-school locations (the home, friends' houses, internet cafés, etc), it is through online communication that students explore, experiment and so gain a wider-range of internet-based skills, confidence and expertise that may carry over into traditionally-defined 'educational' uses.

As we have seen, since both internet (instant message, email, chat) and mobile phone (talk, text) are widely used, mainly to contact friends that live locally, children and young people are making skilful choices regarding the nature of these technologies in relation to the purposes of the communication. Hence, these technologies are employed to manage the intimacy, embarrassment, trust and privacy demands of such communications, so that for many, mediated communication is by no means seen as less satisfactory than face-to-face communication. It is through online communication within peer networks, in other words, that young people act to break down the boundary between offline and online domains, a boundary that is still very salient for their parents and teachers. Yet further direction would also be beneficial here, for as we have seen, although such communication sustains the peer network, it does not necessarily generate a wider interest in community or civic participation. However, over half have shown some interest in such web content. Supporting and guiding such incipient interest is also, surely, an educational task of considerable merit.

Not all the opportunities available to children and young people are being taken up equally, and as some gain more, and others less, from the internet, it is worth reflecting on the costs of not taking up such opportunities on the internet. The UKCGO survey found that those who use the internet more often stand to gain greater benefits though they also encounter more risks, while for those who use it less frequently the reverse holds. Hence, daily users (41% of 9-19 year olds) compared with weekly users (43% of 9-19 year olds) make more frequent use of online communication (instant messaging, email, chat) and music downloading, although not more information uses (see Figure 5). Indeed, daily users are more likely to engage in nearly all the activities we asked about in the survey, suggesting a more wide-ranging engagement with the internet and the resources it provides – including more use of exam revision sites, hobby sites, etc. For example, 31% of daily users but only 18% of weekly users have used the internet for personal advice. Similarly, 40% of daily but only 28% of weekly users have set up their own homepage, and the daily users are also more successful in getting their site online and in updating it. Daily users are also more likely to interact with websites – voting, sending email to sites, offering advice or contributing pictures or messages, and they are more likely to have visited political or civic sites. On the other hand, greater use

also brings greater risks: 48% of daily users and 29% of weekly users who use the internet at least once a week have seen pornographic pop-ups; similarly, 43% of daily users and 30% of weekly users have ended up accidentally on a pornographic website; and similar differences hold for those who have ended up accidentally on a site with violent or gruesome pictures or a site that is hostile or hateful to a group of people. Further, while 8% have met offline someone that they first met online, this is the case for 12% of the daily users and only 5% of the weekly users, and this is not surprising since 42% of the daily users, compared with 18% of the weekly users, know someone that they only talk to online. Lastly, while 49% have never revealed personal information online, this is admitted by 57% of the weekly users but only 40% of the daily users.

Thus, children and young people are becoming divided in terms of their take up of online opportunities above and beyond the inequalities which arise from differences in the nature and quality of internet access. For some, the internet is an increasingly rich, diverse, engaging and stimulating resource of growing importance in their lives; for others, it remains at present a narrow, unengaging if occasionally useful resource of rather less significance. Policy interventions are needed, we conclude, to ensure that all children and young people have a chance to benefit equally from online opportunities. Perhaps such differences are simply a matter of choice? Maybe those who use the internet less are benefiting from other opportunities, available offline, and so are not disadvantaged? More research is undoubtedly required here to inform policy and educational initiatives. However, we note that the UKCGO survey suggests such inequalities may be more persistent and less tractable, for socio-economic status discriminates daily from weekly users. Middle class children, children with internet access at home, children with broadband access and children whose parents use the internet more often are all more likely to be daily users (see also Pew, 2004). For example, 44% of middle class children are daily users compared with 37% of working class children, and the latter group contains more non-users (5%) than the middle class group (2%). This group is, therefore, likely to experience the internet as a rich, if risky, medium than less privileged children. They are also, of course, also those more likely to benefit from comparatively greater offline opportunities. Further, as social, economic and political online resources expand and, eventually, become prioritised over offline

resources, the importance of taking up online opportunities may become greater, less a matter of individual choice and more a matter of ensuring equality of provision and support.

Bibliography

Barnhurst, K.G. (1998). Politics in the Fine Meshes: Young citizens, power and media. *Media, Culture and Society*, 20, 2001-2218.

Baym, N. (2002). Interpersonal Life Online. In L. Lievrouw & S. Livingstone (Eds.), *The Handbook of New Media: Social Shaping and Consequences of ICTs* (pp. 62-76). London: Sage.

Becta (2002). *Young People and ICT 2002: Findings from a survey conducted in autumn 2002.* London: British Educational Communications and Technology Agency. www.becta.org.uk/page_documents/research/full_report.pdf

Bentivegna, S. (2002). Politics and New Media. In L. Lievrouw and S. Livingstone (Eds.), *The Handbook of New Media: Social shaping and consequences of ICTs* (pp. 50-61). London: Sage.

Bolter, J., & Grusin, R. (1999). *Remediation: Understanding new media*. Cambridge, Mass.: MIT.

Buckingham, D. (2002). The Electronic Generation? In L. Lievrouw & S, Livingstone (Eds.), *The Handbook of New Media: Social shaping and consequences of ICTs* (pp. 77-89). London: Sage.

Clark, L. (2003). Challenges of Social Good in the World of 'Grand Theft Auto' and 'Barbie': A case study of a community computer center for youth. *New Media & Society, 5*(1), 95-116.

Coleman, S. (2003). *A Tale of Two Houses: The House of Commons, the Big Brother House and the people at home.* London: Hansard Society.

Crystal, D. (2001). *Language and the Internet*. Cambridge: Cambridge University Press.

Danet, B. (2001). *Cyberpl@y*. London: Berg.

Drotner, K. (2000). Difference and Diversity. *Media, Culture and Society*, 22(2), 149-166.

Eastin, M.S., & La Rose, R. (2000). Internet Self-Efficacy and the Psychology of the Digital Divide. *Journal of Computer-Mediated Communication*, 6(1), www.ascusc.org/jcmc/vol6/issue1/eastin.html

Greig, A., & Taylor, J. (1999). *Doing Research with Children.* London: Sage.

Grinter, R.E., & Eldridge, M. (2001). 'y do tngrs luv 2 txt msg?'. In W. Prinz, M. Jarke, Y. Rogers, K. Schmidt & V. Wulf (Eds.), *Proceedings of the Seventh European Conference on Computer-Supported Cooperative Work ECSCW '01, Bonn, Germany* (pp. 219-238). Dordrecht, Netherlands: Kluwer Academic Publishers.

James, A., Jenks, C., & Prout, A. (1998). *Theorizing Childhood.* Cambridge: Cambridge University Press.

Kellner, D. (2002). New Media and New Literacies: Reconstructing education for the new millenium. In L. Lievrouw & S. Livingstone (Eds.), *The Handbook of New Media: Social shaping and social consequences of ICTs* (pp. 90-104). London: Sage.

Kimberlee, R.H. (2002). Why Don't British Young People Vote at General Elections? *Journal of Youth Studies*, 5(1), 85-98.

Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). Internet Paradox Revisited. *Journal of Social Issues, 58*(1), 49-74.

Ling, R. (2000). 'We Will Be Reached': The use of mobile telephony among Norwegian youth. *Information Technology and People*, 13(2), 102-102.

Livingstone, S. (1998). Mediated Childhoods: A comparative approach to young people's changing media environment in Europe. *European Journal of Communication, 13*(4), 435-456.

Livingstone, S. (2002). *Young People and New Media*. London: Sage.

Livingstone, S. (2003). Children's Use of the Internet: Reflections on the emerging research agenda. *New Media and Society*, 5(2), 147-166.

Livingstone, S. (2004). Media literacy and the challenge of new information and communication technologies. *Communication Review*, 7: 3-14.

Livingstone, S., & Bober, M. (2003). *UK Children Go Online: Listening to young people's experiences.* London: London School of Economics and Political Science. www.children-go-online.net

Livingstone, S., & Bober, M (2004). *UK Children Go Online: Surveying the experiences of young people and their parents.* London: London School of Economics and Political Science. www.children-go-online.net

Livingstone, S., & Lemish, D. (2001). Doing Comparative Research with Children and Young People. In S. Livingstone & M. Bovill (Eds.), *Children and Their Changing Media Environment: A European comparative study* (pp. 31-50). Mahwah, NJ: Lawrence Erlbaum.

Marvin, C. (1988). *When Old Technologies Were New: Thinking about electric communication in the late nineteenth century*. Oxford: Oxford University Press.

Montgomery, K., Gottlieb-Robles, B. and Larson, G.O. (2004). *Youth as E-Citizens: Engaging the digital generation.* Washington, DC: Center for Social Media, American University. www.centerforsocialmedia.org/ecitizens/youthreport.pdf

Montgomery, K., & Pasnik, S. (1996). *Web of Deception: Threats to children from online marketing*. Washington, DC: Centre for Media Education.

Office of the e-Envoy (2004). *UK Online Annual Report.* www.e-envoy.gov.uk

ONS (2004). *Internet Access: 12.1 million households online.* Office of National Statistics. www.statistics.gov.uk

Pew (2001a). *The Internet and Education. Pew Internet and American Life.* www.pewinternet.org

Pew (2001b). *Teenage Life Online: The rise of the instant message generation and the internet's impact on friendships and family relationships.* Pew Internet and American Life. www.pewinternet.org

Pew (2004). *Broadband Penetration on the Upswing: 55% of adult internet users have broadband at home or work.* Pew Internet and American Life. www.pewinternet.org

Poster, M. (2001). *What's the Matter with the Internet?* Minneapolis: University of Minnesota.

Seiter, E .(1999). *Television and New Media Audiences*. Oxford: Clarendon Press.

Torkzadeh, G., & Van Dyke, T.P. (2001). Development and Validation of an Internet Self-Efficacy Scale. *Behaviour and Information Technology*, 20(4), 275-280.

Torkzadeh, G., & Van Dyke, T.P. (2002). Effects of Training on Internet Self-Efficacy and Computer User Attitudes. *Computers in Human Behavior*, 18(5), 479-495.

Turkle, S (1995). *Life on the Screen: Identity in the Age of the Internet.* New York: Simon and Schuster.

Turow, J. (2001). *Privacy Policies on Children's Websites: Do they play by the rules?* Philadelphia, PA: Annenberg Public Policy Center. www.annenbergpublicpolicycenter.org

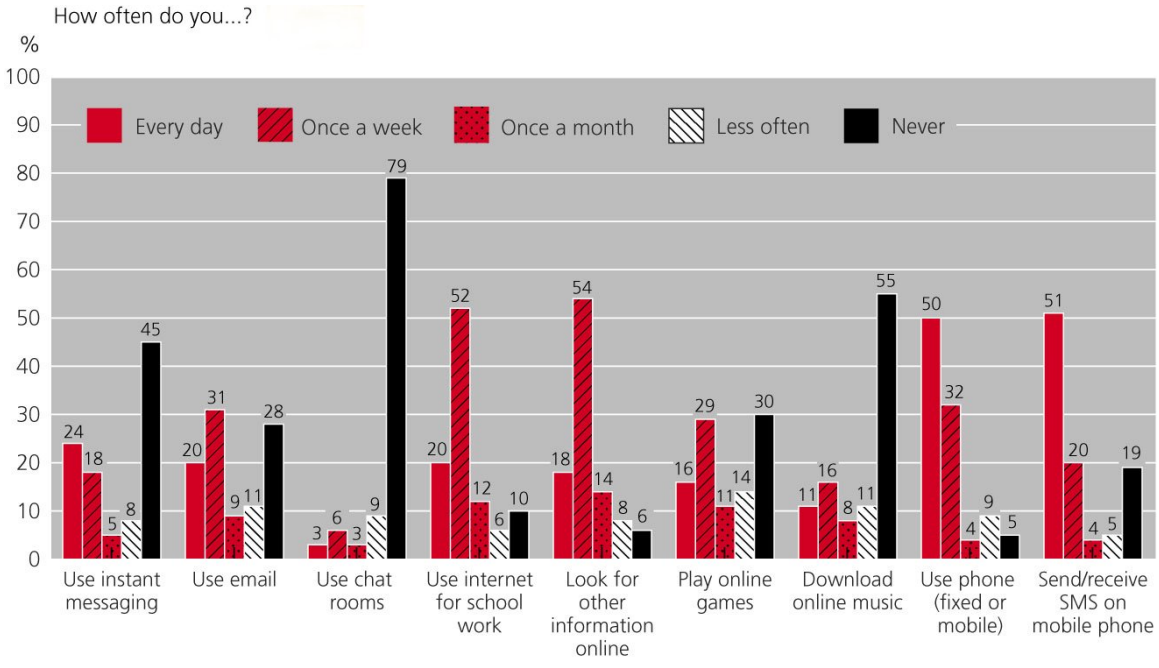
UCLA (2003). The UCLA Internet Report: Surveying the Digital Future, Year Three. UCLA Center for Communication Policy. www.digitalcenter.org

Winston, B. (1996). *Media Technology and Society – A History: From the telegraph to the Internet.* London and New York: Routledge.

Table 1: UKCGO children's survey sample

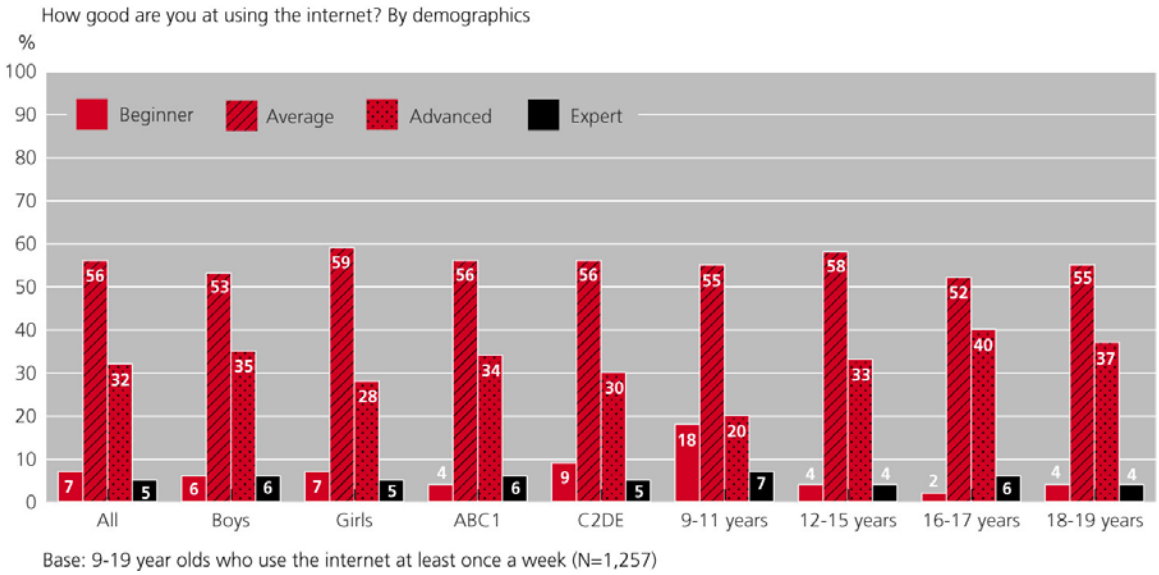
Age	9-11 years (N=380)	12-15 years (N=605)	16-17 years (N=274)	18-19 years (N=251)
Gender	Boys (N=668)	Girls (N=842)		
Socio-econ. background	Middle class ABC1 (N=682)		Working class C2DE (N=829)	
Region	England (N=1,232)	Wales (N=69)	Scotland (N=161)	Northern Ireland (N=48)
Ethnicity	White (N=1,333)	Non-white (N=169)		

Figure 1



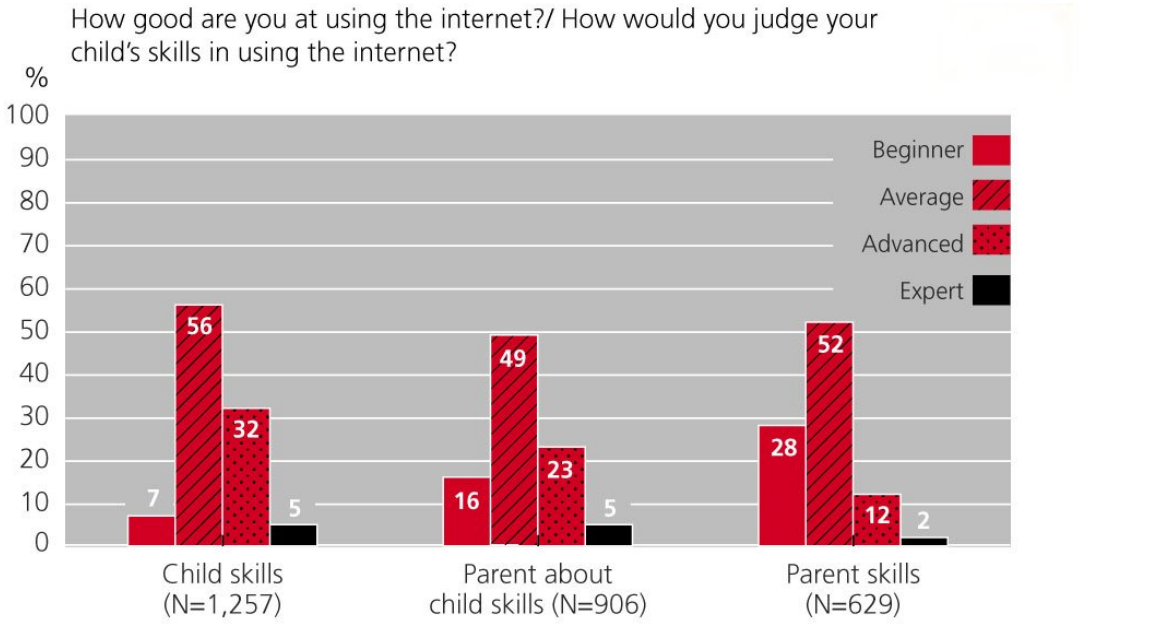
Base: 9-19 year olds who use the internet at least once a week (N=1,257)

Figure 2



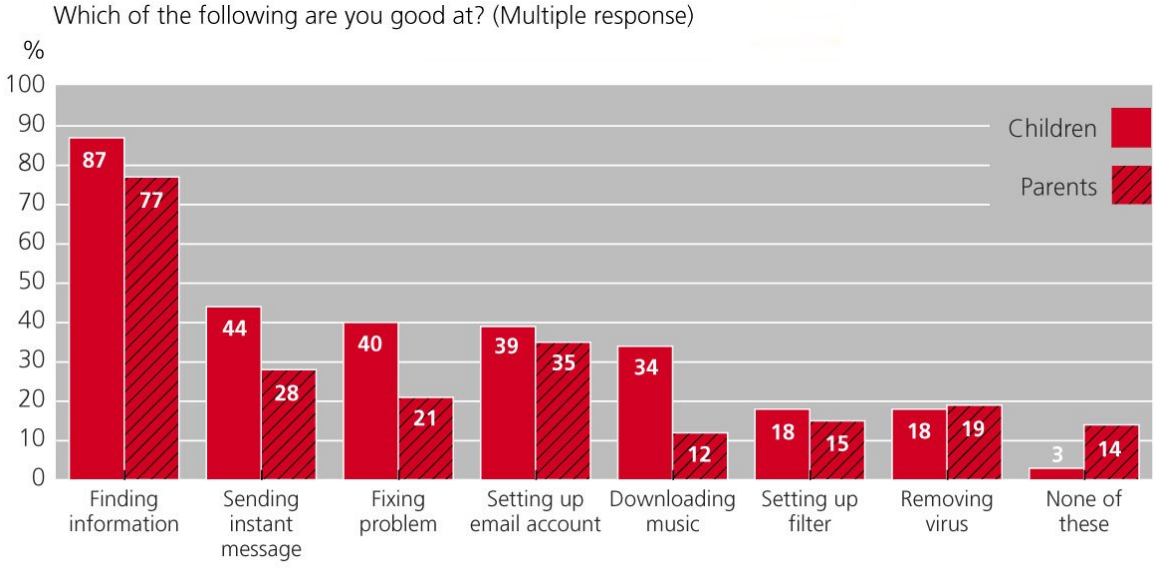
Base: 9-19 year olds who use the internet at least once a week (N=1,257)

Figure 3



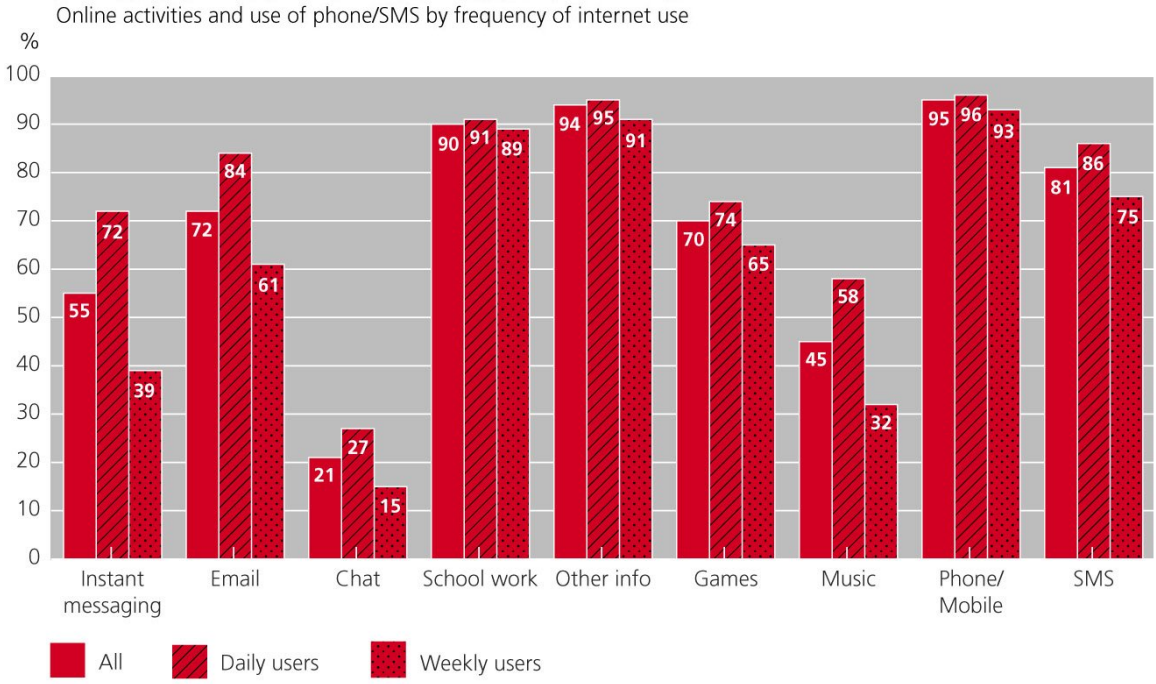
Base: 9-19 year olds who use the internet at least once a week (N=1,257);
All parents of 9-17 year olds (N=906); Parents who have ever used the internet (N=629)

Figure 4



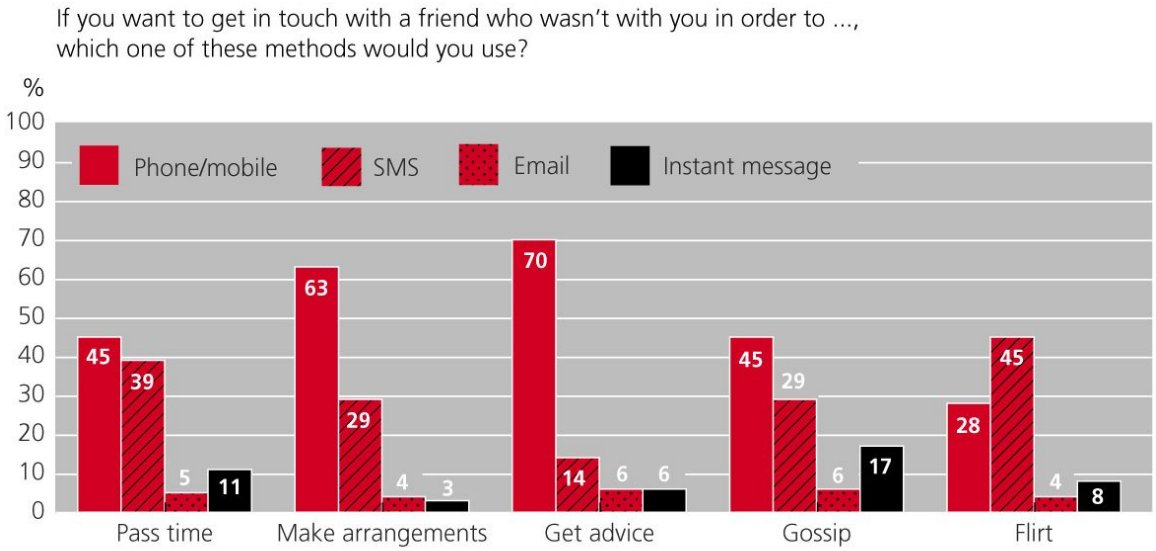
Base: 9-19 year olds who use the internet at least once a week (N=1,257); Parents who have ever used the internet (N=629)

Figure 5



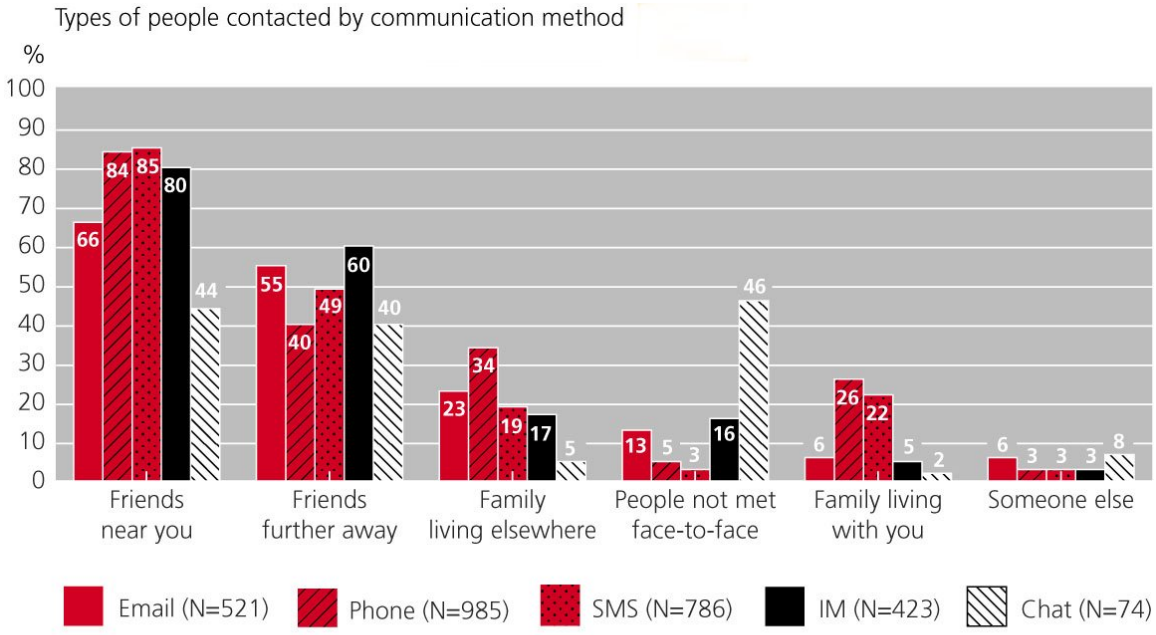
Base: 9-19 year olds who use the internet at least once a week (N=1,257)

Figure 6



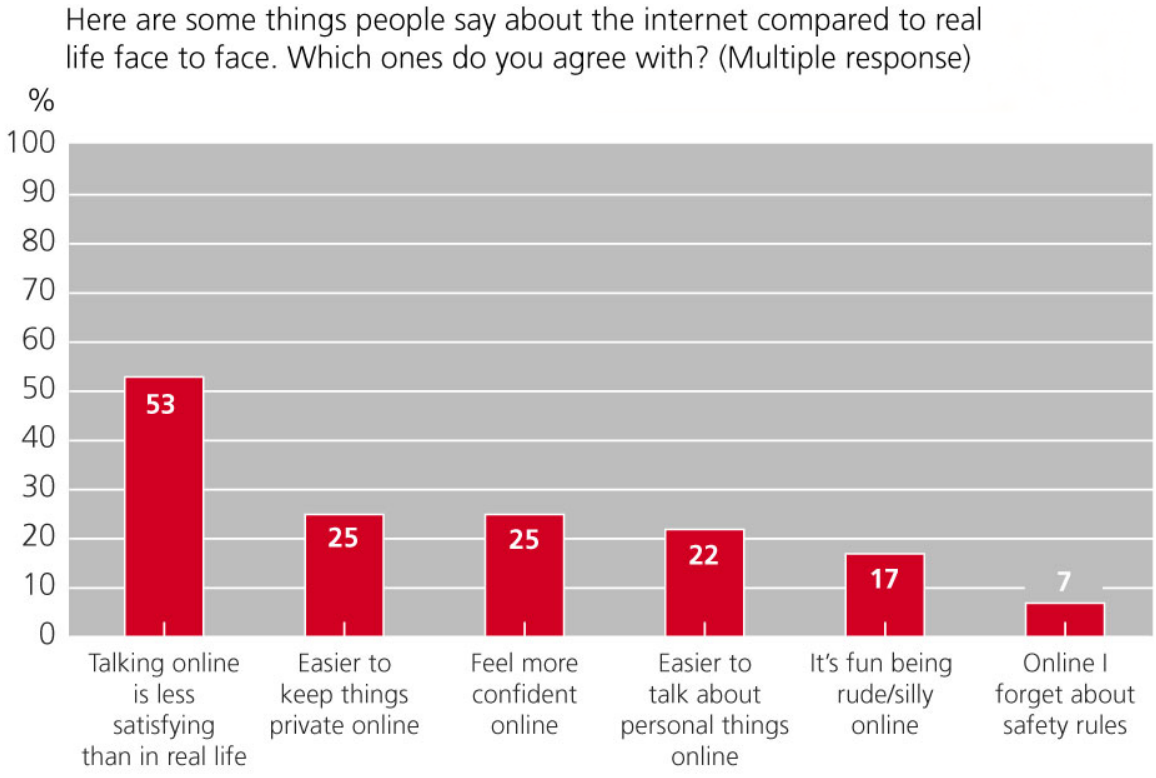
Base: All 12-19 year olds (N=975)

Figure 7



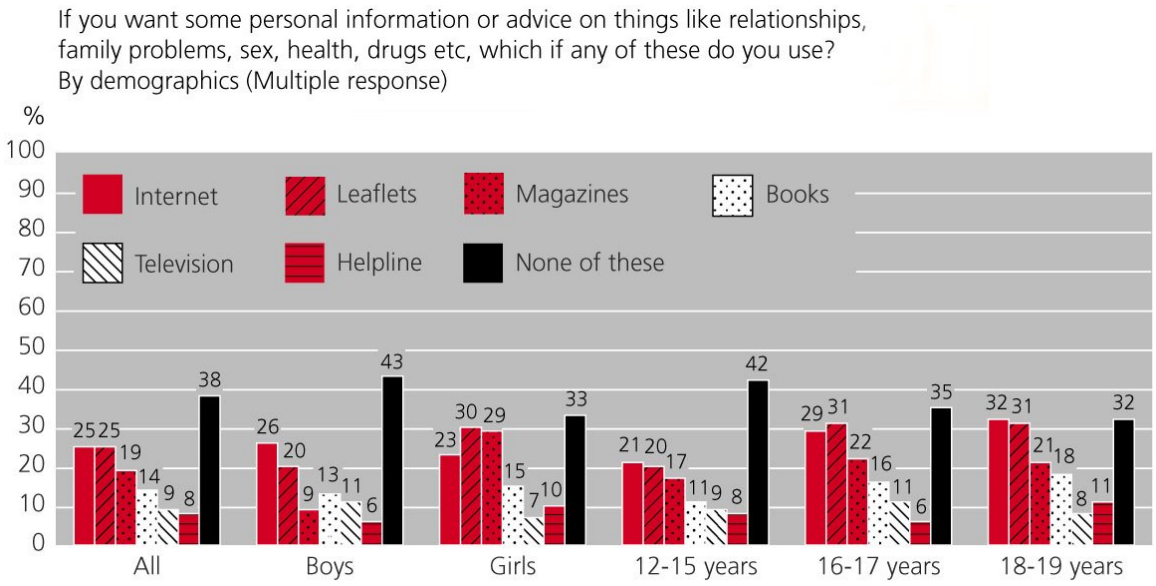
Base: 9-19 year olds who use email, phone, SMS, IM and/or chat at least once a week and have been in touch with people by email, phone, SMS, IM and/or chat in the last week

Figure 8



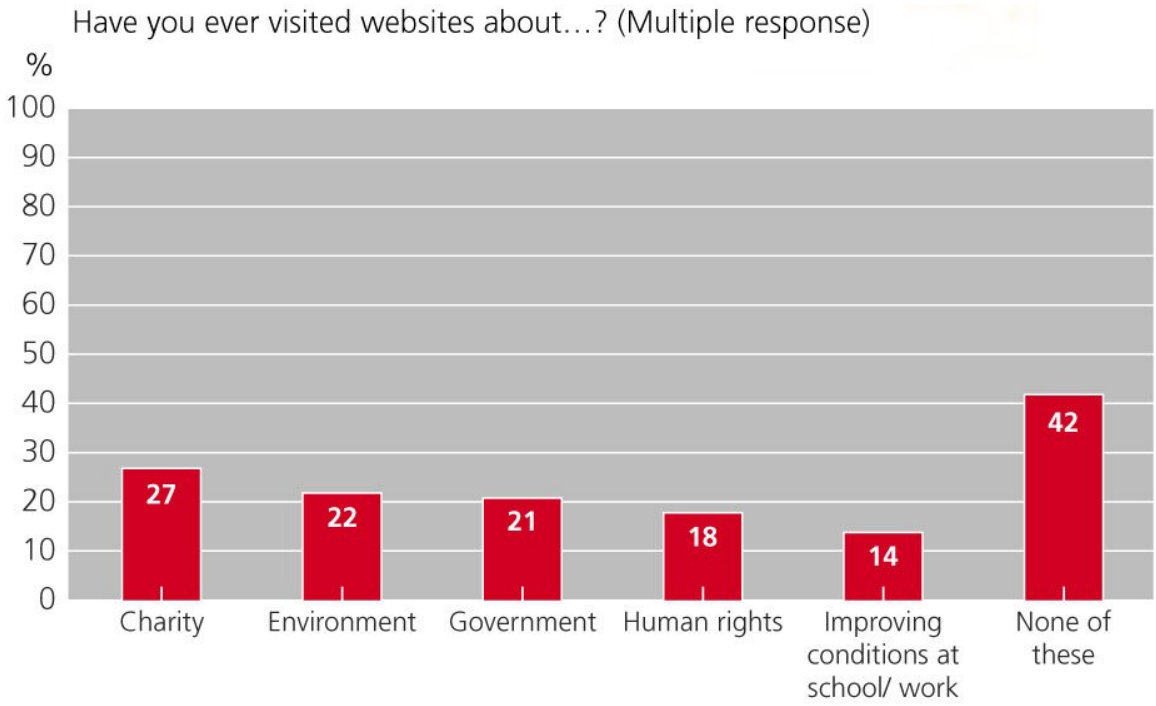
Base: 9-19 year old chat, email and/or IM users (N=983)

Figure 9



Base: 12-19 year olds who use the internet at least once a week (N=975)

Figure 10



Base: 12-19 year olds who use the internet at least once a week (N=975)

Endnotes

[1] Note that children were asked to choose the single most helpful tool, whereas parents were asked to choose all in the list that help their child.