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On the Periphery? Understanding Low and Discontinued Internet Use Amongst Young People in Britain

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Executive summary

In the UK, the Internet has become an important feature of the lives of the majority of young people for all aspects of their lives. However, there is a significant minority of young people who are not able to navigate or connect properly with the online world. They are, in other words, outside the digital mainstream.

Evidence for this group has been found in nationally representative surveys, where around 10% of young people (aged 17–23) define themselves as lapsed Internet users. That is, they used to use the Internet but no longer do so (OxIS, 2011).

This study aims to find out more about this group. Specifically we aim to:

- Examine why young people are outside the digital mainstream, and determine the extent to which this is due to reasons of exclusion or choice.
- Explore the implications this has in their daily lives.
- Consider how the experiences of these young people can inform the digital inclusion strategy in the UK.

This nine month qualitative study investigated these objectives in four overlapping steps: a literature review of academic research and policy documents; analysis of the Oxford Internet Survey (2011) and the Learner and their Context Survey (2009), which contain valuable information on lapsed Internet users; 36 in–depth interviews with young people who consider themselves to be infrequent or lapsed Internet users; and a workshop with key experts in the field.

On the periphery?

From a review of the literature we provide a conceptual framework for the study based on digital inclusion literature and theories of adolescence and developmental psychology. Digital exclusion is a multifaceted issue and from our analysis of the literature we provide a set of five factors or resources that need to be considered when understanding (non) use of the Internet by young people. They are:

- Psychological (attitudes, motivations and agency towards the Internet and everyday life).
- Cognitive (operational skills, critical skills, literacy and awareness of opportunity).
- Physical (quality of Internet access, access to, and use of, other technologies).
- Socio–cultural (family, friends, peers, school, work, community).
- Material (occupation, income, education).

These five resources operate together with young people's life spheres to help us to understand their (non) use of the Internet. We suggest that these five factors – the psychological, the cognitive, the physical, the socio–cultural and the material – together define the technological resourcefulness of a young person and determine his/her ability to access and meaningfully interact with the Internet.

A typology of discontinued Internet use by young people

From a qualitative analysis of the data from two previous national surveys (OxIS and Becta[1]) , we developed a qualitative account of each individual who was identified as a lapsed Internet user based on their responses to relevant items in each survey. 200 items were used for this process from the OxIS data set and 150 items from the Becta data set. These items were selected based on their relevance and used as proxy measures for the five factors outlined above.

Using analytical approaches from the qualitative tradition, we developed a typology of discontinued Internet use, where we identified five groups that could be distinguished from one another in relation to psychological, cognitive, physical, socio–cultural and material aspects of inequality in relation to their engagement with the Internet.

Group 1: identified themselves as discontinued Internet users primarily due to reasons of access and cost. However, in all other respects they demonstrated a number of characteristics that suggest that they were very close (if not almost part) of the digital mainstream. Thus in this group the most important factors in explaining discontinued Internet use are material and physical.

[1] For full details of the objectives and sampling process for the Learner and their Context and OxIS surveys please see Eynon (2009) and Dutton and Blank (2011).

Group 2: considered themselves as discontinued Internet users as they have poorer quality of access to the Internet than they have experienced in the past. The most important factors in explaining discontinued Internet use in this group are material and physical. However, other support to use the Internet (i.e. socio–cultural aspects) could be stronger as could level of skills (cognitive aspects).

Group 3: hold many of the characteristics of the second group and also define themselves as discontinued Internet users' as they have poorer quality of access to the Internet than they have experienced in the past. However, they differ in terms of attitudes, not seeing the Internet as important for finding out or learning new things; they also have lower levels of self–concept for learning, and are less positive about their skills to use the Internet. Thus more factors come into play: material, physical and to some extent psychological and cognitive factors.

Group 4: have a wider range of reasons for not using the Internet, often based around a combination of access, cost, skills and interest. The most common (and often only) reason to begin to use the Internet was because they had to use it for school. For this group there are typically some challenges with all factors: psychological, cognitive, physical, socio–cultural and material, often faring negatively on all five.

Group 5: while groups 1–4 can be seen as a kind of straightforward progression away from the digital mainstream and away from a "proximity" to the Internet, the final main group is a little different as community and other close social networks seem to influence motivation and need. Group 5 typically encounter some challenges with all five factors: psychological, cognitive, physical, socio–cultural and material. However these operate in a different way to the same factors that are apparent in group 4.

These five typologies suggest that prevalent user and non–user dichotomies and popular definitions of use and non–use of the Internet need to be reconsidered.

Living outside the digital mainstream

We interviewed 36 individuals aged 17–23 who considered themselves to be outside the digital mainstream.

To recruit young people to this study, we first tried to contact participants from the two national surveys (OxIS and Becta) who responded to the survey question about whether they "used the Internet at home, school work or anywhere else" by selecting the option "No but I used it in the past." We also used the survey data to build profiles of the kinds of young people we would like to interview and then recruited these young people via a range of networks and gatekeepers.

The data made it clear that what it means to be an Internet user (or not) is not a straightforward concept. In line with the work of others (Haddon, 2004; Livingstone and Helsper, 2007; Murdock, 2002; Wyatt, 2003); we argue that through the messier lens of qualitative research, the categories of use and non use of the Internet becomes far more blurred. We recommend that more research and debate is required about meaningful use of the Internet and what it means to be someone who defines themselves as an Internet user.

All the people we spoke to were undergoing some kind of transition in their lives, and while we do not wish to provide a firm or final set of categories, we identified five main groups or primary transitions in their lives:

- Young people who were homeless or in temporary housing, and whose priority was to find a permanent, or at least more stable, home.
- Young people who had become new parents and were making the transition from independent adults to primary carers for another person.
- Young people who were unemployed or in part time or temporary jobs who were focused on trying to get a job that would provide them with some stability and security.
- Young people were trying to get their life "back on track", typically after a period of crime and falling in with the "wrong crowd".
- Immigrants and refugees who had recently come to the UK and were trying to start a life in Britain.

While of course, none of these transitions are completely distinct from one another, and indeed tend to overlap, they are useful and provide another dimension to the five groups identified in the survey data.

The role the Internet played or could play in the lives of the young people we interviewed varied, from those who felt they already had too many other things going on in their lives for the Internet to feature heavily, to those who saw the Internet as an important tool to assist them in achieving their goals.

In relation to the five factors or resources that need to be considered when exploring (non) Internet use we found the following themes in our interview data:

Psychological resources

- Everyone we spoke to recognised the near ubiquity of the Internet amongst their peer group and saw it as a part of life in the 21st century.
- All interviewees held a very tool based and functional attitude towards going online, with no evidence of a more experiential or participatory approach.
- Those who had directly experienced a negative situation online that had resulted in a level of harm, both online and offline, often had very few psychological resources to use the Internet.

Cognitive resources

- Some interviewees had problems with core literacy skills, which had clear implications for the extent to which people engaged with the Internet.
- Email was a common function that was discussed, and not a function that all our interviewees used or knew how to use properly, which had implications for job seeking.
- Search skills and the ability to judge the quality of information were mixed.
- A lack of skills were compounded by others' assumptions that they should be able to work out what to do online. This made them less likely to ask for help or support.
- Most interviewees had limited ideas of what may be possible with the Internet due to inadequate previous experience.

Physical resources

- Mobile phones were typically considered to be very important for communication, and for the majority of interviewees their phone better met their social needs than the Internet.
- Some owned a smartphone, but this device was not always connected to the Internet.
- Those who had any kind of experience of using the Internet on a mobile device tended to describe this experience in quite limiting ways due to issues of download speed, usability of small devices and cost.
- Of all possible sources, social and technological, face to face contact with people they knew and trusted was probably the most important information source for this group.
- Libraries, Internet cafes, youth clubs, and friends' wifi were all cited as Internet access opportunities, with those closer to the digital mainstream being more likely to use the Internet at libraries.
- A change in access seemed to make a striking difference to how people felt about their level of connection to the online world.
- The degree to which the people we interviewed were satisfied with their level of access varied, but for many it was not sufficient and led to the missing out of opportunities.

Socio–cultural resources

- Few of the participants tended to recall significant support from their parents or guardians when learning to use the Internet. They were unlikely to have ever had a computer and Internet access at home.
- School was often the first place they had used a computer and been shown how to use the Internet. However, due to the skills taught and the blocking of sites the experience was quite limited. Few had managed to maintain, let alone build upon, their uses of the Internet since leaving school.
- The level of support to use the Internet that young people received when they needed it from access locations such as jobcentre plus, youth centers, connexions, shelters and the library varied considerably.
- Friends and younger family members were sometimes useful for proxy use of the Internet; our interviewees were often the only one in their peer group who did not use the Internet.

- Sometimes face to face networks were so strong that young people did not need to go online for social purposes. In other instances, even very limited use of the Internet could support friendships that would otherwise have lapsed.
- The social–cultural contexts that surrounded young people were very important, but we did not find many instances where these contexts tended to extend or develop their uses of the Internet in any meaningful way. These young people had limited amounts of social capital with respect to this aspect of their lives, indeed, some of them seemed to feel very isolated.

Material resources

- Many of these young people did not have significant resource with respect to education, occupation and income, and this undoubtedly had an influence on their (non) Internet use.
- Those who had experienced unsuccessful engagements with education often looked back with regret and wished they had acted more wisely at school, both to get a general education and also to learn about the Internet.
- As would be expected, the lack of material resources in terms of income had a particular impact on having Internet access for many, although not all of the participants.
- Not having an occupation seemed to heighten the need for most young people to use the Internet in order to search for jobs and housing.

The combination of these five factors, together with a person's subjective need to use the Internet, determines the meaningfulness of their interaction with the Internet. Sometimes significant resourcefulness on one or more of the five factors can overcome issues incurred by having a low level of resourcefulness on another factor. For others, problems with just one factor can lead to significant ramifications in terms of their (non) use of the Internet.

Foci for policy and practice initiatives

The widely held and very powerful assumption by government, commercial organizations and the wider public that all young people are frequent and confident users of the Internet is inaccurate. However, this public assumption that the current generation of youth is 'born digital' is so powerful that it has informed numerous policies and initiatives that determine young people's lives.

On its own, the UK government 'digital by default' strategy is not appropriate for this group, and poses a threat for young people with restricted resources (psychological, cognitive, socio cultural, physical or material), who are high users of government services but infrequent and limited users of the Internet. Thus, other support alongside this strategy is required.

From our analysis we would propose strategies that:

- Facilitate connections between young people who used to be outside the digital mainstream and those who are currently still living outside the digital mainstream.
- Allow for the possibility that young people may need support in using the Internet and enable young people to identify problems with their skill sets that they have with going online.
- Improve the quality of physical access to computers and the Internet for these young people.
- Move forward with educational initiatives to ensure all young people have an opportunity to fully explore the online world and develop all the skills needed to support that process while in education.
- Create initiatives that may develop and extend social capital for these young people.

As this group is willing to use the Internet and see it as a normal and necessary part of life we believe that successful intervention is possible.

Introduction

In the UK, the Internet has become an important feature of the lives of the majority of young people. The online environment provides them with another avenue to support their learning, inform their life choices about work and life opportunities, make and maintain friends, pass the time, form and support interests, facilitate creative practices, and to find out about and engage with the world around them. For many it has become a taken for granted part of their world.

While the extent and enthusiasm to which young people engage with the opportunities of the online world varies quite considerably, the majority of this age group can be considered to be within the digital mainstream. Indeed, in popular discourse many commentators assume that all young people are digitally included.

However, this is not the case. From nationally representative survey data in the UK, around 10% of young people (aged 17–23) define themselves as ex or lapsed Internet users. That is, they used to use the Internet but no longer do (OxIS, 2011). This group is fascinating: why do these young people stop using the Internet given its prevalence and value in the lives of the majority of young people? Is this about a form of digital choice or as a result of social and digital disadvantage? Furthermore, what can this group tell us that could inform Britain's digital inclusion strategy?

The purpose of this report is to explore what it means for young people to be part of this group that is outside the digital mainstream. Specifically we aim to:

1. Examine why young people are outside the digital mainstream, and determine the extent to which this is due to reasons of exclusion or choice.
2. Explore the implications this has in their daily lives.
3. Consider how the experiences of these young people can inform the digital inclusion strategy in Britain.

The research process to investigate these objectives evolved in four overlapping steps:

Literature review of academic research and policy documents: to provide an up to date review of current and recent studies, reports and policy documents that examine issues around digital inclusion, with a particular focus on discontinued use of the Internet by young people.

Analysis of two nationally representative data sets: to provide insight into the characteristics of young lapsed Internet users through analysis of data from the Oxford Internet Survey (2011) and the Learner and their Context Survey (2009).

Qualitative analysis of interviews with young people who are low or lapsed Internet users: to gain an in–depth understanding of the role that the Internet and other new technologies plays (or does not play) in their everyday lives.

Workshop with key experts in the field: to provide an opportunity for key stakeholders to discuss the complex array of reasons for low and discontinued Internet use by young people and assess its impact on young people's social and family lives, job opportunities, political participation and educational outlooks within the UK's policy and practice landscape.

The report is divided into five main sections. First we provide an overview of the findings from the literature review. Next we offer a typology of discontinued Internet use based on qualitative analysis of nationally representative survey data. Thirdly, we discuss the key findings from 36 interviews with young people who are low or discontinued users of the Internet. Next we highlight some of the key points from our research and consider these in relation to potential foci for policy and practice initiatives. In the final section we summarise the key recommendations and considerations that arise from this research.

On the periphery?

In popular discourse, notions of the "google generation" or "net gen" continue to flourish alongside utopian and dystopian hopes and fears for young people (e.g. Prensky, 2001; Palfrey & Gasser, 2008; Tapscott, 2009). However, the reality is far more nuanced and complex than is ever presented in such debates. Indeed, when we empirically explore how young people really engage with the Internet and related technologies we see a significant amount of diversity in how and why young people use new technology and the influences it has on their lives (e.g. Davies and Eynon, 2012; Facer and Furlong, 2001; Ito et al., 2009; Livingstone et al., 2012).

However, the majority of academic research that investigates how young people access, use and experience the Internet tends to focus on the spectrum of Internet use of those who might be considered within the digital mainstream, with a relatively limited focus on those who do not use the Internet, drop out from or discontinue using the Internet, or use it in very limited ways (for notable exceptions see Katz and Aspden, 1998; Livingstone and Helsper, 2007). This is primarily because a great deal of the work in this area is based on large scale surveys (thus unable to pick up in detail on the experiences and challenges for this minority group). Furthermore, existing qualitative studies also tend to focus on moderate to high end Internet users as these are the individuals who are more willing to participate in academic studies.

Thus, to guide the conceptual framework for this study we have drawn upon a broader range of work around issues of digital inclusion that is not just focused on young people, and have also considered other work that focuses on theories of adolescence and developmental psychology.

Conceptualizing digital exclusion

The digital divide was traditionally defined as the gap between those who have and those who do not have access to computers and the Internet or other technologies. However, as research has progressed the divide is no longer seen as a straightforward distinction between the "haves" and "have nots", and has moved to more complex models where digital inclusion and exclusion are seen as a continuum. For example, van Dijk proposes four successive types of access: motivational, physical, skills, and usage access (Van Dijk, 2006). Similarly, DiMaggo and Hargittai (2001) propose five dimensions of digital inequality: equipment, autonomy of use, skills, social support, and purposes of using the Internet.

This shift is important and is reflected both in the burgeoning academic literature on the complex range of variables to understand when measuring digital inclusion, and in policy and practice where there has been a shift in the majority of countries from a focus on provision of technology to supporting people to use technology and trying to motivate people to use it. However, the recognition of the multifaceted nature of digital inclusion also makes it more difficult to define those who can be considered digitally included and who cannot.

This is further complicated by the need to determine what range of digital technologies should be included, better agreement on what we mean by "access" and "use", and a more nuanced understanding of the consequences of engagement with ICT (Selwyn, 2004). These issues are further complicated as technology shifts and changes over time, meaning that the goal posts are constantly changing (Selwyn, 2006; Van Dijk, 2006). In this report we will consider all of these issues in detail, but first we review the existing literature on factors that help us to understand why young people use (or do not use) the Internet.

Key factors in understanding (non) use of the Internet by young people

From a review of the literature there are a number of key interrelating factors that need to be considered when trying to understand (non) use of the Internet by young people. As illustrated in figure 1 we have grouped these into five main areas: psychological, cognitive, physical, social–cultural, and material. Similar to Selwyn (2004) we suggest that by considering the factors that influence (non) use of the Internet, we can begin to "reconstruct the digital divide in more sophisticated terms: as a hierarchy of access to various forms of technology in various contexts, resulting in differing levels of engagement and consequences" (Selwyn, 2004, p. 351).

Figure 1 Resources in understanding (non) use of the Internet

Psychological	Cognitive	Physical	Social-Cultural	Material
•Attitudes •Motivations •Agency	•Operational •Critical •Literacy •Opportunities	•Quality of Internet access •Access to technologies •Use of other technologies	•Family •Friends •Peers •School / work •Community	•Occupation •Income •Education

Psychological

There are a number of psychological factors that may be important when understanding (non) use of the Internet. One key aspect is the set of attitudes, motivations and agency beliefs young people hold about the Internet, themselves and the relationship between the two. Specifically, the attitudes young people hold about issues such as the Internet in general, what the Internet can offer them, the attitudes they hold about themselves, and about their ability to use the Internet.

Whilst related, all of these aspects matter in their own right, as studies with adults have shown that those who have more positive attitudes towards the Internet in a broad sense tend to be more likely to use the Internet and use it for a wider range of purposes (Dutton et al., 2007). Furthermore, Boos and Roe have suggested that since adolescents are in a transition phase, in which they start to anticipate their futures, the ways that young people believe that the Internet could support them in working towards their future could be a particularly important way to understand the motivational factors that may drive adolescents' use of the Internet (Boos and Roe, 2006).

Self–efficacy is also important here. Those who feel more confident or who have a higher self–efficacy in using the Internet are more likely to take up online opportunities, as they believe there will be a positive outcome for their behaviour (Eastin, 2005). Similarly, studies have shown that a feeling of having a problem–solving approach to technology (i.e. being able to take control, experiment and play with technology to solve problems) is also important in understanding Internet use amongst young people (Eynon and Malmberg, 2011; Broos and Roe, 2006). Such a phenomenon does not only relate to the technology, but also to other beliefs that young people hold about themselves in relation to life and learning (Bandura, 2001; Eynon and Malmberg, 2011).

As we shall see below, the teenage years and the early twenties are character ised as a time of instability in which young people are trying to work out who they are and who they want to be. In some ways technology may be able to help them to achieve these goals, but if their belief in themselves or in their abilities to use technologies, or their attitudes to the Internet, are negative then it is not possible, or at least much more difficult, for this to occur.

Cognitive

Of course, also important here is the actual ability to use the Internet, not just a person's beliefs about their ability. These include skills to operate and use technologies for a range of informational, social and creative purposes (e.g. Ba et al., 2002: 6–8; Eshet–Alkalai and Amichai–Hamburger, 2004: 422–423) as well as skills to understand how new technologies influence and are influenced by wider commercial and societal forces (e.g. Buckingham, 2007; Gillen and Barton, 2010; Hague and Williamson, 2009; Jenkins et al., 2007; Livingstone, 2008), and also basic literacy skills related to reading and writing.

Skills are important. Numerous studies have shown that those young people with more skills in using the Internet tend to go online for a wider range of activities (Cheong, 2008; Eastin, 2005; Hague and Williamson, 2009; Hargittai and Hinnant, 2008; Helsper and Eynon, 2010; Livingstone and Helsper, 2010).

Also relevant in this category is a knowledge or awareness of the opportunities that are available online. Young people who have had negative or very limited experiences of using the Internet in the past may also not have a strong understanding of the benefits being online can bring, which may cause a lack of interest (Livingstone and Helsper, 2007) and also an inability to make the Internet "work" for them within the context of the needs and wants in their life.

Physical

Access to the Internet has always been a key issue in digital inclusion research (Van Dijk, 2006) and was indeed the primary focus of early research. Whilst the vast majority of young people are (at least in theory) able to access the Internet somewhere (at school, in the library, in an Internet café), the issue becomes not one of ability to find an access point or not, but rather more an issue of quality: e.g. having home Internet access (Facer et al., 2003; Eynon and Malmberg, 2011b; Hassani, 2006; Ito et al., 2008; Livingstone and Helsper, 2007), quality of the hardware and software (Dijk 2005), the extent to which young people need to share their access with others in the home (Eynon, 2009),the extent to which they have personal ised access (Eynon, 2009; Pew, 2010), and the number of locations of access (Dutton and Blank, 2011; Livingstone and Helsper, 2007), all of which have significant implications for engagement with (non) use of the Internet – with better quality of access leading to engagement with a wider range of activities online.
What is also important to consider here is the range of technologies that young people may have access to (e.g. computers, TVs, mobile phones, gaming devices) which while not connected to the Internet may well offer young people certain opportunities that meet certain needs within the context of their current circumstances (Selwyn, 2004b). TVs, games consoles and mobile phones are all gadgets that many young people see as important and significant in their lives for entertainment, communication and information purposes, and this should not be forgotten when considering Internet (non) use and the extent to which someone can be considered to be digitally included or excluded. For example, if someone only uses email to contact their friends or uses texts for the same purpose, or if someone listens to a CD rather than downloading an MP3, we need to ask what differences or implications does this have? Thus, what is important here is to consider both access to a range of available technologies and how people use them and what they use them for. The issue of use will be considered further below.

Social–cultural

A key aspect of understanding the extent to which a person is digitally excluded or included is their social–cultural context (Mehra et al., 2004; Tsatsou, 2011). This category includes a number of different aspects that are apparent from the more micro to the macro aspects of people's lives from the immediate family context, to the role of friends, schools and groups they participate in – all of which have direct and indirect influences on Internet (non) use (Haddon, 2005; Thomas, et al., 2005).

For example, parents can influence when and how young people are introduced to technology (McMillan and Morrison, 2006), their child's uses of technology once online via the strategies they employ to support and regulate their child's use of technology (Davies 2011; Tripp 2010; Valckea et al. 2010; Zhao 2009), and can act as important role models (Eastin, 2005). Often, for young people who are non or low Internet users, parents have had anxieties about Internet safety that have either prevented access at home or influenced young people's uses of the Internet (Livingstone and Helsper, 2007; Davies and Eynon, 2012).

Schools and other educational institutions are also important in this respect, as they may provide an important point of access to the Internet, and because they can support young people in their development of their digital skills (Eynon and Malmberg, 2011a). However, the levels of support young people receive may differ markedly from school to school and are based along lines of social inequality (Lee, 2008; Warschauer et al., 2004).

In general, friends are a very important source of support in using new technologies, particularly for older teenagers. Whilst more research is required on how this process works, those teenagers who have friends who are more engaged with technology tend to use the Internet more (Eynon and Malmberg, 2011a; Facer, et al., 2001; Ito et al., 2008; Punamäki et al., 2009).

These actors, along with broader cultures, are not just likely to provide support, but are also likely to provide information about what is needed, expected or appropriate in terms of levels of use of the Internet and the relative importance of this technology in everyday life. Internet use tends to be relational, in that a young person's perceptions of their online abilities and activities are likely to be influenced by their observations of others around them. The more positive the experiences of parents, friends and teachers in online activities, the more likely the individual is to believe in their own abilities to use or learn to use the Internet (Eastin, 2005). Thus, the people around the individual become good role models for making young people feel confident in their skills and abilities online (Eynon and Malmberg, 2011a). However, this could work both ways; if young people feel their skills are not as good as those of their peers or parents then their online experiences could be negatively affected (Helsper and Eynon, forthcoming).

Material

The final factor that we highlight here are the material aspects of digital inclusion, an issue which is very well documented in the literature. In simple terms, those who are better off, better educated and/or who are in employment are more likely to use the Internet, and for a wider range of purposes than those who are not. This is often because they have better quality access, better support networks, and more skills; in short, more resources to draw upon (Davies and Eynon, 2012; Peter and Valkenburg, 2006; Zillien and Hargittai, 2009). However, it is important to note that no or limited use of the Internet may not always be due to material inequality (Haddon, 2004; Wyatt, 2003). Research across the whole population in developed countries has shown that there is a group of people who have all the necessary material resources but are who not using the Internet (Helsper, 2008) – thus perhaps exercising a "digital choice" (Eynon and Helsper, 2011). Conversely, as our research indicates, there are a number of young people who may not have material means, but who find (creative) ways to access and use technology.

Thus, in the empirical phase of our study we considered how these five different kinds of resources relate and vary for young people who are low or discontinued users of the Internet. We also tried to explore how and why these resources may change over time and also what the outcomes of a lack of resources may be for this group of young people. As we will see in the next section, (non) use of the Internet is a dynamic state, and one that is constantly changing.

A dynamic and experiential perspective to understanding Internet (non) use

People of any age can move between not using and using ICT throughout their lifetime (Haddon, 2005; Haythornthwaite and Wellman, 2002; Wyatt et al., 2002). As an example of this, Murdock (2002) has developed the notion of a "technological career", suggesting that people's relationships with and use of technology over time may change. It is therefore crucial to see these factors not as static, but as constantly changing as a result of what else is happening at the same time.

For young people aged 17–23, these factors can potentially be in a greater state of flux due to the likely social changes in their lives at that time. While age, on its own, cannot account for the significant variation in young people's physical, social and developmental circumstances (Coleman, 2008; Steinberg, 2002), by 17 young people are no longer in compulsory education and have made or will soon make certain choices (e.g. about staying in formal education, starting employment, leaving home and / or starting a family). These changes or transitions (see Coles, 1995; Graber and Brooks–Gunn, 1996) in the social realm may have significant consequences for (non) use of the Internet and other technologies.

Indeed, Goode (2010) has summarised this approach of technology use in the context of adolescents' life stories and identities, within the conceptual framework of 'technology identity', using identity as a theoretical and methodological guide to examine and explain the digital divide. Viewing identity, among other factors, as a product of participation in communities, Goode has suggested that experiences of using the Internet in the past influence adolescents' relationships with technology today. This again stresses the need for a more longitudinal perspective to understanding (non) use of the Internet. What is also clear is that when trying to understand (non) use of the Internet it is important to connect the technological with the social, psychological, and biological in the case of young people in particular.

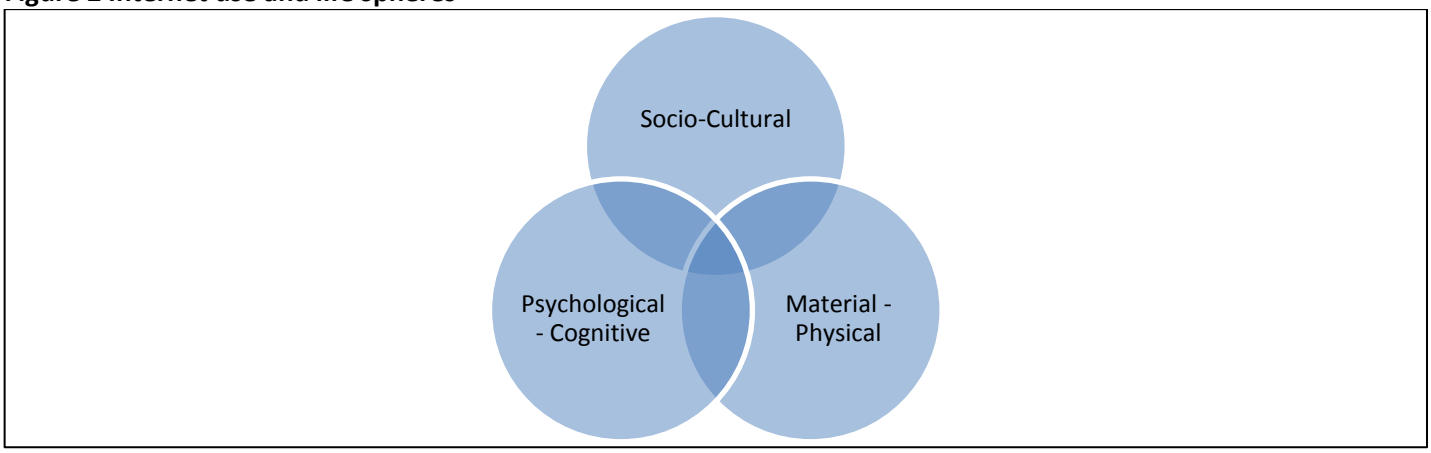
In the UK, all young people aged 17–23 will have encountered the Internet to at least some degree at school. Thus, those who are digitally excluded in this group are perhaps different to those in older age groups, who may not have had the opportunity to experience going online in any direct way.

A young person who does not have access to social media websites, such as Facebook for example, may not be part of the same group of peers as a young person who regularly posts and interacts on Facebook with other group members. They may feel excluded and marginalised, as they may not be able to contribute to these online social interactions as much as others, which may lead to him/her to join other peer groups where use of the Internet does not matter so much. These actions (or rather, non–actions) of an individual distinctively shape his or her environment.

Based on the evidence of the literature review presented here, we propose the following framework within which we intend to examine the low and discontinued Internet use of young people (aged 17–23) in the UK. As has been outlined in Geniets and Eynon (2011) and summarised in figure 2, young people's life–spheres can be differentiated in different social contexts, including family, peers, school, and work. Internet access and use can happen in each of these contexts. We suggest that each of these contexts consists of three different dimensions, which influence whether or not young

people access and use the Internet. These dimensions are: influences of the prevalent culture that may jeopardize or encourage Internet use; a more physical or material dimension, which includes physical access to the Internet and/or material access (i.e. money to pay for the Internet); and an internal dimension. These dimensions shift and change over time. We believe that these five factors – the psychological, the cognitive, the physical, the socio–cultural and the material – together define the technological resourcefulness of a young person and determine his/her ability to access and meaningfully interact with the Internet.

Figure 2 Internet use and life spheres



A typology of discontinued Internet use by young people

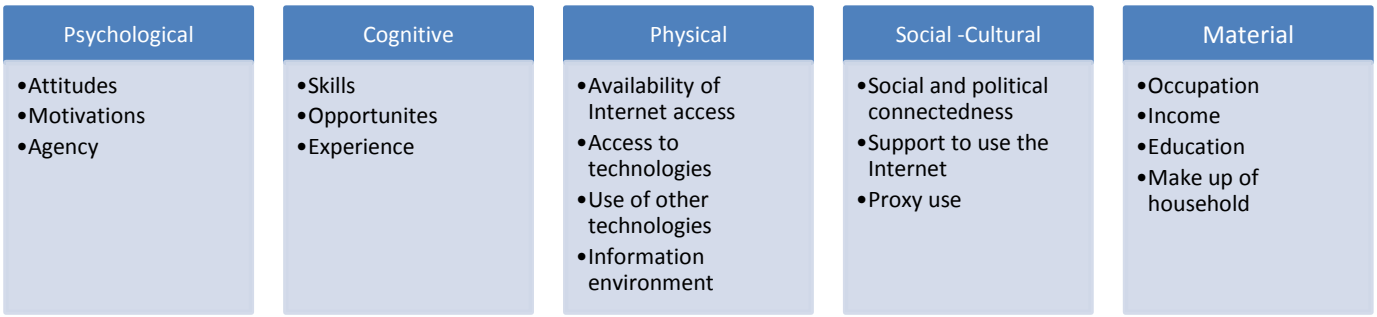
Very little research has been conducted on young people who are non, ex or infrequent Internet users (Geniets and Eynon, 2011); often because digital inclusion research uses quantitative surveys where the numbers that fall into this group are very small. From analysis of two previous national surveys (OxIS and Becta[2]), we have briefly summarised the kinds of descriptive data we can obtain looking at frequencies of certain variables (table 1).

Table 1: Profile of lapsed Internet users

Profile of young lapsed Internet users (OxIS 2011)	**Profile of young lapsed Internet users (Becta, 2009)**
Men and women across the age group of 17–23	Men and women across the age group of 17–19
Generally of British white origin	Generally of British white origin
Majority have no disability or health issues	Majority have no disability or health issues
Majority have low household income	Majority have low to middle education levels
Majority have low education levels	Mixed income households
Majority are unemployed	All are school leavers
Generally do not participate in communities	Majority are unemployed
Generally are not politically interested	Majority are frequent Television viewers
Majority believe that life is easier using the Internet	Generally mobile phone users
Costs and access main reasons for not using the Internet	Costs and access typical reasons for not using the Internet

While these kinds of descriptive frequencies are useful, the numbers are too small to perform any kind of inferential statistics, and they hide minority responses. Thus, in addition to this process, we developed a qualitative account of each individual in this group based on their responses to relevant items in each survey. 200 items were used for this process from the OxIS data set and 150 items from the Becta data set (for a full set of items see the appendix). These items were selected based on their relevance and used as proxy measures for the five factors and framework outlined in the section above.

Figure 3 Summary of survey items used



We then analyzed and coded each case using a qualitative approach (Miles and Huberman, 1994; Boulton and Hammersley, 1996). This qualitative approach to analyzing quantitative data is supported by advocates of mixed method research (e.g. Creswell and Clark, 2007) and enabled us to develop a typology of discontinued Internet use, where we identified five groups that could be distinguished from one another in relation to psychological, cognitive, physical, socio–cultural and material aspects of inequality in relation to their engagement with the Internet. Each of these groups is summarised below.

Group 1

The first group in the OxIS data set was a group that was older (i.e. all over the age of 19); and this may be why a similar group was not identified in the Becta data set, which only covered young people up to and including those who were 19 years old. This group described themselves as discontinued Internet users primarily due to reasons of access and cost. However, in all other respects they demonstrated a number of characteristics that suggests that they were very close to

[2] For full details of the objectives and sampling processes for each of these surveys please see Eynon (2009) and Dutton and Blank (2011).

(if not almost part of) the digital mainstream. This group was characterised by high levels of social connectedness, often participating in clubs and societies and spending time with friends and family. They had moderate levels of trust in the Internet, government and other people. They typically had a range of people they could "ask for help on Internet related matters": both family members and friends and often colleagues and library staff. They "definitely know someone who could use the Internet on their behalf" and some have asked others to "get information from the Internet, send an email or purchase on their behalf". The majority have a broad range of Internet experiences and / or have experienced positive outcomes (e.g. finding a job) from using the Internet. Young people in this group tended to have experienced a mixed range of Internet uses, including more capital enhancing activities. They typically had a range of motivations for starting to use the Internet. These included: "to try it out as it may be interesting", "they had to use it for work, for school", "to find a better deal for buying products and services" and "to keep in touch with family and friends".

This group tends to have medium levels of agency towards technology, and describe themselves as "very interested" in the Internet. They hold relatively positive views about technology and the Internet in particular. They tend to "strongly agree" that they will use the Internet in the future. They often have a range of technologies at home, including a computer, and tend to be computer users. They report stopping using the Internet a short time ago (under a year, typically less than 6 months). People in this group tend to be students or employed, with medium to high levels of education, and have low to medium level incomes.

Thus from our model we see that in this group the most important factors for explaining discontinued Internet use are material and physical.

Group 2

From the Becta data, group 2 contains 17–19 years olds who primarily define themselves as discontinued Internet users because they have poorer quality of access to the Internet than they have experienced in the past. Typically they say they stopped using the Internet around the time they left school. They tend to be young people who spend "a little" amount of their time each week on engaging in physical activities like sport or dance or pursuing hobbies. They tend to be quite social and spend a "lot" of time with family and friends. School – most typically secondary school – was "very important" in helping them to initially learn to use computers, as were friends. Family members were far less likely to be recognised as important in learning to use computers. Proxy use, i.e. asking someone to email, get information or make a purchase online, is rare but not unheard of in this group. Their friends "like to use technology" but the extent to which they "talk about technology" or "use technology" with their friends is quite mixed. They began to use the Internet "to see what they could find" and often for educational purposes; sometimes a friend's encouragement was also a reason. The majority do not have concerns or anxieties about using the Internet. They usually rate their skills at using the Internet as "good" or "excellent". However, they are not all sure they have the necessary computer skills that are required for employment. From the data available, they tend to have a relatively wide experience of the Internet from their past use. They tend to have quite good levels of agency towards technology, agreeing that, they "try lots of things to see what works" and try to "figure it out for themselves" when attempting to work out something new. At the same time, however, they also agree that "they often get frustrated" with technology. They have strong self–concepts for learning, generally agreeing that they learn things on their own "because they want to", that "they enjoy learning new things" and "like opportunities for learning". The key reasons for no longer using the Internet are due to leaving school or college where they had access, or it was too expensive. They have ambivalent to positive levels of attitudes towards technology in general and the Internet in particular. However, they all see computers and the Internet as important for helping to find out or learn new things. They all watch TV and use a mobile phone "a lot". Some use a gaming device and a computer each week. The majority would like to use the Internet again in the next year and intend to use it for a relatively wide range of purposes, including communication, information seeking, entertainment and shopping. There is a mixture of unemployed, employed and young parents in this group who have all left school with qualifications; typically around 5 GCSEs grade A–C or equivalent.

A similar group was identified from analysis of the OxIS data set, though the different items asked in that survey offer us a slightly different perspective. In OxIS this group was aged 20–22, and had sound social connections, primarily through friends and families as opposed to through clubs and social organisations. They tended to have strong relational support, reporting that they could ask a range of people for help on Internet related matters (such as friends), but they had limited institutional support for help with Internet activities. They previously used the Internet for a relatively broad range of activities, for entertainment, information seeking, communication and social networking, and some had

experienced positive outcomes from using the Internet (e.g. finding a job). They began using the Internet for a range of reasons, for interest, for school, to keep in touch, to get good deals. While finding the Internet sometimes frustrating to use they tended to have a certain level of agency towards technology.

They agree that they are "interested in the Internet", and tend to hold relatively positive attitudes towards technology e.g. "technology is making things better for people like me". They also feel they are personally better off when they use the Internet, and agree with the statement that "they could perform daily tasks better if they used the Internet". This group report that they are missing out when they do not use the Internet and email, and they see the Internet as having a number of potential benefits. They are definitely planning to use the Internet in the future, and may be intending to get Internet access at home. Some have computers at home that they use. They often have other gadgets, e.g. games machines and digital cameras.

This group tends to be unemployed, but they left school with some qualifications, typically around GCSE level. They report low incomes, but sometimes live in a richer neighbourhood than household income would suggest. Typically this group reports not using the Internet for at least a year. They stopped using it because they moved / left school where access was available. Cost is now the key reason for them not using the Internet.

Thus from our model we see that in this group the most important factors in explaining discontinued Internet use are material and physical. However, support in using the Internet (i.e. socio–cultural aspects) could be stronger, as could level of skills (cognitive aspects).

Group 3

The third group identified in the Becta data consists of 17–19 year olds who hold many of the characteristics of the second group, and also define themselves as discontinued Internet users due to having poorer quality of access to the Internet than they have experienced in the past. This group differs from group two in four key ways. First, they do not see computers and the Internet as important for finding out about or learning about new things. Whilst they have similar levels of technology agency or ability to employ a problem–solving approach to using technology as group 2, they demonstrate lower levels of learner self–concept, in particular those items related to being good at learning: "you are good at learning new things" and "you find it easy to learn new things". They are slightly less positive about their skills at using the Internet, tending to rate them as "fair" and do not think they have the necessary computer skills for required for employment. From the data available, they used to use the Internet for a narrower range of purposes. They tend to be unemployed and have some qualifications, but typically at a lower level (e.g. 4 GCSEs grade D–G) or no qualifications at all. While access and cost are given as the reasons for not using the Internet, there are some indications that issues of skills and confidence in learning may be factors relevant to this group. Thus from our model we see more factors coming into play, namely: material and physical, and to some extent psychological and cognitive.

While there were not many participants in OxIS with a similar profile, it is perhaps worth noting that from the data available it is likely that this group is less sure about where to go for different kinds of information. In addition to using the Internet for a narrower range of purposes, they were also less likely to encounter any positive outcomes from using the Internet, but did not report negative ones either. Proxy use, at least in principle, may be possible. They are likely to feel they have personally been affected by the economic crisis.

Group 4

From the Becta data, group four consists of 17–19 years olds who typically have a wider range of reasons for not using the Internet, often based around a combination of access, cost, skills and interest. They tend not to spend any time each week engaging in physical activities like sport or dance or pursuing hobbies. However, they tend to be quite social, and spend a "lot" of time with family and friends. School, most typically, secondary school, was rated as "somewhat" helpful in helping them to learn to use computers, and friends were sometimes, but not always, also "somewhat" important. Thus, support to learn to use the Internet seems more limited than in groups 1, 2 and 3. Proxy use, e.g. asking someone to email, get information or make a purchase online, is non–existent, although the Becta data does not ask if there is someone available to use the Internet for them in principle. In general they are ambivalent about their friends' relationship with technology, tending to neither agree nor disagree with the statement "your friends like to use technology" and tend to disagree with statements that suggest they "talk about technology" or "use technology" with their friends. The most common (and often only) reason to begin to use the Internet was because "they had to use it for school". The majority do not have concerns or anxieties about using the Internet. They usually rate their skills to use the

Internet as “bad” and they do not think they have all the necessary computer skills that are required for employment. From the data available, they tend to have a narrow experience of the Internet from their past use. They tend to have quite limited levels of agency towards technology, typically disagreeing that they “try lots of things to see what works” and disagree that they try to “figure it out for themselves” when trying to work out something new, and instead agree that they “ask someone for help”. At the same time, however, they also agree that “they often get frustrated”. They have low self–concept for learning and tend to disagree that they are “learning things on your own because they want to”, “they enjoy learning new things” and “like opportunities for learning”. They also do not consider themselves as good at learning, disagreeing with the statements “you are good at learning new things” and “you find it easy to learn new things”.

They have ambivalent to negative attitudes towards technology in general, and the Internet in particular. They disagree with statements like “technology is important in your life” and are often ambivalent about statements like “you are missing out by not using the Internet and email”. They do not see computers and the Internet as important for helping them to find out about or to learn about new things, although other technologies like TV, phone and books are seen so. They watch TV and use a mobile phone “a lot”. Some use a gaming device and a computer every week. They do not know, or do not think they would like to, use the Internet again in the next year, and if they did use it, they anticipate that it would be for a narrow to medium range of purposes. This group is likely to have left school or be unemployed, and unlikely to be living with parents.

In OxIS, young people in this group held similar characteristics. Of particular note is that they tended to have low levels of trust in government and the media, and low to moderate trust in people; they also first tried the Internet because they had to use it for school. They tend to have low levels of technologies in the home (often a TV and games machine) and do not use a computer (whether or not connected to the Internet) anywhere. Cost is often a significant issue for preventing access to the Internet. They tend to be unemployed.

Thus, for this group there are typically some challenges with all five factors: psychological, cognitive, physical, socio–cultural, and material.

Group 5

While groups 1–4 can be understood as a kind of straightforward progression away from the digital mainstream, and away from a “proximity” to the Internet, the final main group is a little different. From analysis of the Becta data the young people aged 17–19 in this group distinguish themselves from groups 1–4 in not having a significant motivation to use the Internet. This seems to be because they are employed in roles where the Internet is not required and/or have strong social networks, which sometimes can be a strong proxy for Internet use.

While in some ways this group is quite mixed, there are some common themes that hold them together. They have friends who like to use technology, but they disagree with the statements that they “talk about technology with your friends” and “you use technology together with your friends”. School was the most common reason to begin to use the Internet, although friends and parents were sometimes important. They rate their skills at using the Internet as “poor” and do not consider that they have all the necessary computer skills that are required for employment. They tend to have low levels of agency towards technology and are more likely to “ask someone for help” than to “try lots of things to see what works” or “figure it out for themselves”. They agree that “they often get frustrated”. In contrast to group 4, they have relatively strong learner self–concepts, and tend to agree that they like “learning things on your own because they want to”, “they enjoy learning new things” and “like opportunities for learning”, but are more ambivalent about being “good at learning new things” and “you find it easy to learn new things”. They typically have quite negative views towards the Internet and do not think they are “missing out by not using the Internet and email”, and disagree with the statement “you would get or have got better marks at school, college” if they has used the Internet. They do not intend to begin using the Internet in the next year. The majority of this group are employed, and those that are unemployed instead have strong social networks (e.g. belong to clubs) in ways that do not occur for those young people in group 4. There is some evidence of proxy use of the Internet. Thus we propose that despite having low skills, this group is simply not “that bothered” about using the Internet, given the current context of their lives. Indeed, while multiple reasons were given for lapsed Internet use based around issues of access, skills, and cost, attitudes became much more apparent in this group, with the majority “not finding it interesting”. To a lesser extent, concerns about safety were also apparent.

OxIS provided less evidence of such a group, simply due to the numbers in the sample. However, from the data available, these groups tend to prefer to get information from people, and tend to have good networks of support, and may be young parents who currently do not “need” the Internet for their current circumstances.

Thus, for this group there are typically some challenges with all five factors: psychological, cognitive, physical, socio–cultural, and material. However these operate in a different way to the factors that are apparent in group 4.

There were three other individuals in the Becta data set who were outliers, in the sense that their profiles had distinctive differences to the other groups, but we consider important to mention. The first was an individual who had good levels of engagement in clubs and hobbies and connections with family and friends, and in general had quite good levels of skills for using the Internet as well as agency towards learning and technology. However, this individual appeared to use others as a proxy to the Internet instead of using the Internet themselves. They were currently unemployed but had some educational qualifications. In some ways, they have much in common with group 4 but have good skills at using the Internet and high levels of Internet agency. Reasons for stopping were around cost and that the Internet “took up too much time” and was “too slow”. The second was an individual who experienced disabilities that meant that using the Internet was difficult, and also had low levels of skills, agency and attitudes towards the Internet. In many ways the profile of this individual matched the profile of those in group 4, but they would have different needs in terms of getting them back online. The third individual was a socially isolated individual who had strong negative views of technology and the Internet but reported their skills to be fair. Again, in many other ways this individual matched the profile of those in group 4.

Of course, as with all typologies of the kind presented here, it is important to stress that these are not totally distinct and separate groups, and the boundaries around each are relatively blurred. However, it does provide us with a multi–dimensional understanding of discontinued Internet use which is not possible with descriptive statistics. It also highlights that the young people who fall into this category are not all the same, and have very different reasons for being in the discontinued use category. These issues are more or less challenging for policy and practice.

These five typologies suggest that prevalent user and non–user dichotomies and popular definitions of use and non–use of the Internet need to be reconsidered. We also need to understand what it means to be in one of these groups. In social inclusion research, academics have made it clear that while an individual’s indicators of social exclusion may be similar, their way of experiencing social disadvantage may be different (Emmel et al., 2007), and this may also be the case for digital inclusion. Thus, qualitative studies may help in this regard, and this was the next step in our study.

Living outside the digital mainstream

Understanding experiences of digital inequality

We conducted in–depth interviews with 36 individuals aged 17–23 who considered themselves to be outside the digital mainstream. Of these, the majority considered themselves to be discontinued Internet users or had been discontinued Internet users in the past. We would classify the remainder as infrequent and narrow users of the Internet who all felt disadvantaged in some way, typically due to issues of access and skills. In the analysis below we primarily focus on the core group of lapsed or previously lapsed Internet users. However, all the interviews were helpful in developing and refining our understandings of what it means to be outside the digital mainstream to varying degrees.

To recruit young people to this study, we first tried to contact participants from the two national surveys (OxIS and Becta) who responded to a survey question about whether they "used the Internet at home, school work or anywhere else" by selecting the option "No but I used it in the past". However, recruitment via this strategy was unsuccessful and only led to one interview being conducted. This was often because the mobile contact numbers that were given were incorrect / had changed / or the potential participant did not wish to respond to an unknown caller.

A number of social science researchers have highlighted the challenges of reaching those who are in essence "hard to reach" (Atkinson and Flint 2001; Curtis et al. 2004; Benoit et al. 2005). As can be seen from the typology, many of those we were interested in talking to were likely to be hard to reach.

We therefore next used the survey data to build profiles of the kinds of young people we would like to interview and then recruited these young people via a range of networks. Emmel and colleagues (2007) have suggested that the establishing of trustful relationships with socially excluded groups is the most important factor when conducting research with socially excluded people, and we suggest that the same applies to those who are digitally (as well as) socially included. These authors have identified a range of strategies to access hard–to–reach groups, which include innovative service delivery, peer interviewers, incentives, involvement and immersion in communities, and acts of reciprocity. Such methods can enhance credibility, build rapport, and break down power relationships. This helps in facilitating easier access.

Similarly, in this study we used a wide range of gatekeepers to identify those young people who fitted the profile for our study. These included government institutions like the Early Intervention Hubs in Oxfordshire, Connexions in a range of locations in the South East and the Midlands, parent groups, umbrella youth organizations like London Youth (who issued our call to over four hundred youth clubs and youth workers in and around London), libraries in and around London, individual youth centre's and youth clubs, local employers, social youth workers, charities and individual case workers, and colleges and schools (including all members of the Association of Colleges). This was designed to find a range of young people in different circumstances; those who had just left school, those who were unemployed, had become parents, were not in education or training (NEET), were homeless etc.

People have often assumed that discontinued Internet use is a straightforward concept. However, similarly to Selwyn (2004) and Haddon (2005), we have found that it is not. All the young people (apart from one) in our study who described themselves as current discontinued Internet users to some extent did technically "use" the Internet.

For example, when we asked Graham[3] if he used the Internet he told us "No but I used it in the past" because "I only ever used it at school really. At home I have never been able to access." He considered himself a lapsed Internet user since leaving school a year earlier. However, since leaving school he had started using Facebook on occasions – i.e. once every few weeks – because "in school I saw all my mates but after school I saw them less and less (...) with Facebook I can still talk to them."

Similarly, Jack told us "I am not an Internet user." When asked why this was, he explained "I use it very rarely, maybe once a month." For him, he had not been an Internet user since the age of 14 when he had begun to be seriously bullied after setting up a Facebook page. He used the Internet to check emails once a month for details of the football matches he refereed.

[3] All real names have been replaced by pseudonyms.

Initially, we were surprised and a little confused by these apparently contradictory responses, but as the interviews went on we began to see a clear pattern, where this group of young people perceived themselves as no longer using the Internet, primarily due to a significant change in access, and / or a change in the amount or nature of use, and also by defining themselves in contrast to their peer group. As Nick said, "I am just one of those very, very few who doesn't use it [the Internet] as much (…) more young people are in because it is more our day and age."

Interestingly, these subjective statements relate to the ways that Internet use is measured by digital inclusion researchers. Internet use is typically measured in terms of access to the Internet, amount of time spent online, the breadth of Internet use, or the nature of use (Van Dijk, 2006, Selwyn, 2006). A significant change in one or more of these aspects tended to make the young people we spoke to feel like they were no longer a "proper" Internet user.

The responses also brought to mind the work of a small, but highly regarded, group of researchers who have stressed the need to allow for a scale of very limited frequency and breadth of Internet use, when conceptualizing use and non–use of the Internet (Haddon, 2004; Livingstone and Helsper, 2007; Murdock, 2002; Wyatt, 2003), as well as the extent to which someone is a "non–user" if they have good proxy access to the Internet (Selwyn et al., 2005). Through the messier lens of qualitative research, the categories of use and non use of the Internet become far more blurred.

In our group of interviewees, these young people typically used the Internet in very narrow, infrequent and, as we will see below, often unsatisfactory or unsuccessful ways. Email, Facebook and job searches were the most popular activities. For example, Anna only went online to "check her housing application." For Jeff "It's just e–mails that I check, really (…) you got to have Internet to check e–mails, right?" Simon only used the Internet to open his Facebook profile that a friend had set up for him: "when I open Facebook, if I see my friend, I chat [to] him. If not, I close it and I am out."

Thus, while these young people did use the Internet in an objective sense, we do not (and they clearly do not) see this kind of use as amounting to particularly meaningful or satisfactory interactions with the Internet. Thus, there seems to be a difference between the subjective experiences of using the Internet versus whether someone objectively uses it or not. For us it raised the issue of what "being online" means, and what implications this has for policy and practice. We also believe that this meaning may be different for younger generations who have grown up with the Internet as part of their everyday lives compared to the meaning lapsed Internet use has for older generations. We will return to this issue in our discussion of meaningful online interaction below.

In summary, we are not claiming that absolute non use of the Internet in this age group does not occur, but that it is rarer and much harder to capture (in research terms) when this is the case. This may be in part due to potential participants not wanting to be interviewed about something they do not actually do. There were also some indications from the few young people who told us (accurately as far as we could tell) that they had experienced a sustained period of total non use of the Internet in the past, that they often tended to be undergoing a very difficult phase in their lives, for example, living on the streets or a period where drinking was a prominent feature in their lives, or that they had a very negative experience while they were online. Despite our best efforts we did not find any "refusenicks" who had all the resources necessary to use the Internet if they wanted to but who never actually did.

Transitions

As noted above, the teenage years and early twenties are characterised by life transitions, which are likely to influence the ways that young people use or do not use the Internet. As would be expected all the people we spoke to were undergoing some kind of transition in their lives, and while we do not wish to provide a firm or final set of categories, we identified five main groups or primary transitions. These do not directly map onto the five categories in section 2, but instead provide another dimension to our analysis.

There were those who were homeless, or in temporary housing, and whose priority was to find a permanent, or at least more stable, home. For example, at the time of the interview Jeff, who came to the UK from Jamaica at the age of 12, had been living in a friend's car for a fortnight, as he had just split up with his partner, with whom he used to live. He had a daughter of 18 months with his partner and worked three days a week as an energy sales advisor. At the time we spoke to him he was "just trying to sort my life out, get my life back on track."

There was another group of young women who had recently become parents, like Anna, who was 18 years old. She lived with her mother and her step–father and planned to move in with her partner who lived close by, as soon as her housing application came through. Her brother was at university. She had a daughter of a few months old. She left college at 17, without completing the course, and left school with more than 5 GCSE grades A–C. Her life had changed a lot since becoming a mother and her old friends were not doing the same kinds of things as her. The mums group she went to and her mobile phone was the important social contacts / tools she needed.

There were also those in our study who were often unemployed, or in part time or temporary jobs, and who were focused on trying to find a job that would provide them with some stability and security. For example, Graham was 17 and had left school about a year before with over 5 GCSEs grade A–C. He lived at home with his father, sister and young niece; his mother lived quite close by. He was looking for work, and would really like to be a games designer, but was currently struggling to write his CV as he was not sure what to write. Although his parents were supportive he felt like he was "on his own" in terms of finding a job and a career.

Andrew is 23 and was identified as a lapsed Internet user in the OxIS 2011 survey. He moved around a lot as a child, due to family issues, and around six years ago he was evicted from his home and lived on the streets for two months before moving back in with his mother. He has worked in various parts of the pub trade since then, and also gone to college and achieved NVQ level 2. He was currently looking for full time work in catering and hospitality (he currently works 25–30 hours a week) and looks after his mother who is disabled. He wants a "decent secure job" and hopes one day to own his own bar.

Others were trying to get their lives "back on track", typically after a period of being involved with crime and falling in with the "wrong crowd". They wanted to have a better, "normal" and stable future. For example, Josh is 19 and lives with his mother, brother and sister. He has been in trouble with the police but now wants to turn his life around. He has been in and out of work. He is currently unemployed and desperate to find a job, live on his own and have a "normal life". At the moment, his family is under financial pressure, and his mother is disabled.

The final group comprised immigrants and refugees who had recently (typically in the past year) come to the UK, and who were trying to start a new life here, trying to acclimatize to the culture, language and way of life, as well as finding a home, getting a job or an education. For example, Simon arrived in the UK in May 2011. He was originally from Eritrea, and had travelled to Britain via Sudan and Greece. He was studying English at college and was trying to find part time work. He planned to get a full time job once his English had improved. He found using the Internet very difficult, and used it in extremely limited ways, occasionally using Facebook to some degree.

While none of these transitions are completely distinct from one another, and they tend to overlap, they provide us with a useful insight into the lives of people who are outside the digital mainstream, and they help us to explore why and how the Internet plays such a limited role in their lives, their feelings about this, and the kinds of practical interventions that might be appropriate to explore.

Internet as facilitator?

Within these five kinds of transition, the role the Internet played – or could play – varied. For those who were homeless, the people we spoke to often felt they had too many other things going on in their lives for the Internet to feature heavily. Money and security were also key issues. Others saw the Internet as a tool to sort out their lives and move on from their current predicaments:

> So hopefully soon I will get a roof over my head where I don't have to sleep in this cold car. And then, from then I could just see where, what's there for me, you know, go out there and make a little bit of money, look after my child. (Jeff)

For those young people who were trying to find a job the Internet was often seen as an important tool, but not always a welcome one.

> [Employers] are trying to steer you in a way so you have to use the Internet (…) You're being pushed to use something that you don't really care about much. (George)

Indeed, for many interviewees, their preferred approach was face to face, with a number going round to shops handing out CVs, or using their friends to help them get a job, as it was more personal and looked like they had made more effort:

> With a computer you are clicking, you send something off (…) go in the shop it shows them what you are willing to do to get a job. (Graham)

For those who were trying to turn their lives around, the Internet was typically seen as an important way to do this. They looked to others in their peer group, and the world around them, as evidence that this should be possible, but they found it hard to do. For example, Nick, who could use the Internet for social and entertainment purposes, seemed to be constantly circling the online world to try and access the opportunities that he saw others being able to take:

> I don't know how to use a computer properly (…) I just go on it and just play games and listen to music (…) nowadays computers are used like, everyone has got a computer, everything is computerised, everything is online. Most things you used to be able to do like formally [face to face], now everything, literally [everything is online] (…) Apparently it is meant to be quite easy. (Nick)

For those young people from abroad who were trying to adjust to the UK, the Internet was often seen as an important part of that, and most were frustrated with issues of access. These young people were often very resourceful in all aspects of their lives – they had to be to survive – and they perceived the Internet to play a part in it. As Simon said, "yeah, I feel bad, because the Internet is very important in life, you know."

Gradations in resources of (non) use of the Internet

The actual role of the Internet in the lives of these young people was shaped both by the context of their lives and by the five resources outlined above. We will explore each of these resources in turn.

Psychological resources

Everyone we spoke to recognised the near ubiquity of the Internet amongst their peer group:

> I think it [the Internet], like it's definitely something that people should be taught about because it is, especially like now, it's such an integral part of a lot of people's lives. Like you can't really escape it. (Hugh)

This recognition meant that the people we spoke to were willing to view the Internet as something they would need to use for some purposes, either now or in the future, despite frequent concerns about safety, privacy, reliability of information, the removal of face to face contact, and ease of use. It was at the very least viewed as a necessary evil or simply a normal part of life in the 21st century that they were not properly part of.

What was striking about this group was the extent to which they held a very tool–based and functional attitude towards going online. For example, Andrew, who was identified as a discontinued Internet user in the 2011 OxIS survey, had in the past 6 months begun using Facebook on his mobile phone and was using the computer and the Internet in the library to search for a job. He did not see any other purpose for being online:

> Because of job searching and things like that, so I've used the Internet more. But that, I think that's the only reason (…) If I was working, I don't think I'd be using the Internet more. I don't think I'd be using it at all, to be fair, apart from on my phone, just to see my friends. Because I wouldn't have any need for the Internet, I don't think. (Andrew)

A similar story of a tool based approach was also clearly apparent in the experiences of other young people in our group who were further away from the digital mainstream. For example, Graham, "never really needed to" use the Internet, although he acknowledged that "someday I might need the Internet" and would then use it again; although he was not entirely certain what those uses would be. Hannah, who had recently become a mother "did not see the point" in general browsing on the Internet. An exception to this approach was Hugh, a recent graduate, who considered himself to be a discontinued Internet user as he now used the Internet a lot less due to a lack of access at home. He was not only more aware of all the possible opportunities online, but also of a culture or way of life that he was no longer part

of. It was clear that in the past he had used the Internet in a way more in line with the more experienced users of the digital mainstream (Davies and Eynon, 2012) for "hanging about" or "messing around" (Ito et al., 2009). In some ways he was positive about the change in his experience, telling us that the Internet and Facebook was a bit like a "drug":

> Once you live without frequent Internet for about a month, it gets a lot easier to break your dependence. (Hugh)

And that he appreciated his now more task–based approach to being online:

> I think it's quite good, 'cause it means at least like, it means like I can do what I want in a concise amount—period of time, and get everything I need done, and then just like go about my day. (Hugh)

However, he did at times find this more task based approach "annoying" due to cost and restrictions on time. He also felt he missed out on certain aspects of life, such as not seeing photos on Facebook from a friend's night out, or not knowing information about celebrities or other world events until several days later.

The very tool–based approach to the Internet in our data is striking, and quite different to the experiences of being online for many young people who are more likely to spend time doing their own things, passing the time, and playing around with the technology (Davies and Eynon, 2012). While it is important not to stereotype the digital mainstream, it is likely that this kind of restricted tool–based approach will have significant implications for future uptake and use of the Internet. In contrast to mainstream users, where narrow use typically leads to greater breadth of use with experience (Livingstone and Helsper, 2007) we suggest it is unlikely that this very narrow functional approach will lead to broader engagement without intervention.

Another important theme that influenced the level of psychological resources people could draw on to use the Internet was whether or not they had directly experienced a negative situation online which had resulted in a level of harm, both online and offline.

For example, 17 year old Jack experienced significant bullying and harassment both online and offline since the age of 14 when he created a Facebook profile over the school holidays. The bullying was so severe, "at some points it resulted in me being physically hurt (...) the police have been informed about it as well." He had developed an extremely controlled way of dealing with the Internet, only using it if absolutely necessary: receiving text alerts on his phone if he was directly mentioned on Facebook and only checking email once a month to receive information about the football matches he refereed. Even when at college he never checked his school email account, and used books wherever possible to find out the information he needed. If it was a choice between submitting an online form or a handwritten text he would do the latter. This was not an issue of access or of skills; until recently he had Internet access and a computer at home, and he knew how to use them. The main reason Jack avoided the Internet as much as possible was because all websites had the potential to cause him significant distress. As he said:

> I don't know really, it is just the fact that I just don't particularly want to go online to find a threatening message or something so I just try and stay off, that is why I hand write it and that is why I don't check my email just in case there is a threatening message on it. (Jack)

A concern about misuse of personal data by companies was also highlighted by some interviewees. For example, Jeff repeatedly told us that the Internet is "just not safe", based on his own experiences of cold calling after completing an online survey and others' experiences of online fraud. Since his own experience, Jeff had closed his Facebook account and now only used the Internet to occasionally check his email, and felt that he did not really need the Internet in his life: "So it's not safe, the Internet (…) it's good to, you know, communicate and all that stuff, but, I don't think it's really essential for people's life, really." It appeared that for Jeff, the risks of having information about him online were higher than the benefits he could obtain. Similarly, Sergej didn't feel safe "because if you're going to like use Facebook, you know, you have to give like all the data about yourself (…) And it's bad (…) they are using your data for their own good." Indeed, Sergej was quite wary of the commercial forces involved in new technology, and unhappy with the constant upgrades required to use technology that for him were deliberately put in place "just to earn money".

It is not surprising that people are being put off using the Internet due to negative experiences. Although, due to our sampling strategy, it is not possible to say with certainty, it is likely that many young people in this group are vulnerable, and have characteristics which make it more likely that they might be harmed by the risks of going online (Livingstone et al., 2012). This clearly has ramifications for future use.

Cognitive resources

As noted above, the range and frequency of any kind of use of the Internet by the people we spoke to tended to be extremely limited; similarly, while a few had reasonable levels of skills, as Jack told us, "I know how to do everything it is just whether I chose to or not", many had very low levels of skills with quite significant gaps in their cognitive ability to go online.

Some interviewees had literacy difficulties, sometimes due to dyslexia or troubles with writing and / or remembering complex passwords. These core literacy skills had clear implications for the extent to which people engaged with the Internet. As Josh said, "At first I set up my email account, and I couldn't get into it because I kept messing up my words for the passwords and that". Life online became easier for him when his youth worker (who technically should not have helped him as he was 19 when we spoke) helped him to set up a new email account and a more simple password.
In terms of being able to use certain sites, the skill levels we were told about ranged quite considerably.

Simon, who had only been in the UK for 9 months and was still developing his English language skills, only knew how to open his Facebook profile and chat online in a very basic fashion. He told us, "I open Facebook, if I see my friend I am chatting. If not, I close and I am out." This was the only thing he used the Internet for, and the only thing he knew how to do. From our discussion his assessment that "I don't know how to use the Internet" was an accurate one.

Email was a common function that was discussed, and surprisingly was not a function that all our interviewees used, or knew how to use properly even if they did use it. This had significant implications for job seeking:

> I have never been good at email. I only really realised what it meant about 2 months ago (…) I have done CVs in the past and I have put my email address on it as well, which is from 2009 but that don't matter (…) But then I don't like have a computer or I go to it and I don't understand how you reply or anything like that like (…) Int: Do you think that disadvantages you? (…) Yeah of course, like everything is by email these days everyone is on the BlackBerry and they can just email. (Nick)

Email attachments in particular caused problems:

> I don't really get them [my family] to do anything for me on the computer, unless I'm having trouble attaching something on an email. I hate attaching things. Int: Do you know how to do it? (…)They showed me so many times, it's just like finding the right bits to do and where to put them and everything. And then when I think I've done it, I haven't. And then I'm just like "Dad, can you come and sort this out" and he is just like "yeah, move" and then he does it for me and explains how to do it, and then the next time when I have to attach something to the email I have forgotten everything again. (Howard)

Search skills and the ability to judge the quality of information were again quite mixed. For example, Sergej told us he found "the Internet very difficult" due to the number of returns a search offered:

> Open like 10 pages, you know, and you just can't choose because they are all the same. You have to click on each and just write down something. Click on another one, just write down something, you know. It's just mindless. (Sergej)

Nick did not use job search because "I don't know how to do it." Josh told us how it had taken him days to put together a list of employers from the Internet, and the JobCentre had assumed it had only taken a couple of hours.

Anna's distrust of the credibility of sources meant she did not see it as important for information:

> I just think, I think [the Internet] is not important because it has got so many (…) so many things in it that is not relevant (…) and like obviously Google and stuff people look on it and (…) it just it doesn't tell you

> everything that is true it will go into like weird stuff and obviously you have got (…) I just don't think the Internet is that brilliant a thing to be fair. (Anna)

Indeed, it was surprising how a number of interviewees did not use the Internet for any kind of research purposes.

A lack of skills was compounded by others' assumptions that they should be able to work out what to do online. This meant that these young people were less likely to ask for help or support, and given their limited access and time spent online were unlikely, by themselves, to address this problem. For example, Howard whose engagement with the Internet tended to be limited by his dyslexia, explained when asked if he felt embarrassed when having to ask for help on a computer:

> Sometimes yeah, because my little sister comes up and helps me, and it's so embarrassing when she does it. Because I am dyslexic and I can't spell very well. So every time I ask someone to spell I think oh for f**** sake, this is so embarrassing and want to die, and think I shouldn't have asked, f****** hell, because then they take the piss out of me for not knowing how to spell. (Howard)

Equally, Ray found it difficult to know how to fill in forms online and experienced frustration using the Internet due to his lack of skills:

> Like yesterday I get some letters from housing. It was all online and I was trying to fill in the form, but when I tried to type it, it told me to download the file. So it can be difficult to access it online unless I want to print it. So when I want to print it I need to save it and when I save (…) you see, it's just complicated. (Ray)

Similarly, Liam was so worried about viruses he was not willing to download any form of any nature from any site, and this significantly restricted the benefits he could obtain from being online. The cultural assumptions that all young people are "expert" Internet users is particularly problematic for this group, and is an issue that we will return to below.

Another aspect of the cognitive dimension of (non) use of the Internet was knowing what the online world could offer. Most interviewees had not used the Internet for a wide range of purposes in the past. Neither had they often experienced a period in their lives when they could simply experiment and play with the Internet in their own time. Thus, their ideas of what may be possible with the Internet, and how it may be able to better help them in their lives, were often relatively limited. Reena told us how she and her friends had only used MSN at school as they did not know what else was on offer because "we didn't know about it (…)[and] no one really explored [the Internet] with us." Similarly, Simon explained:

> I can't think to use Internet for something else because I don't know how to use it. So I don't think about that. (Simon)

Relatedly, Jeff who only used the Internet for occasional emails felt that with better access he would probably just send more emails to more people.

Others knew more about the range of possibilities, but did not plan to take advantage of them any time soon:

> To me, Internet is like, I don't know, it's just like a big search engine thing, isn't it, where you can like, you can, if you want to see a pair of shoes or if you want to book yourself a trip to, or football tickets or whatever, you search through things, different sites and stuff. That's all the Internet is to me. But I only ever use Facebook, really, now. (Andrew)

In making this point, we are not suggesting that the Internet could solve all the problems these young people encounter. Nor that every potential opportunity leads to some kind of meaningful outcome. For example, George very occasionally used Facebook to send a private message to his family in Jamaica when he was sending some money back home. In the past he had tried using Facebook to search for people he used to know but stopped as he realised:

> I never knew their surname, and a lot of the time they had these different aliases, and so [the names] doesn't come up. I'm thinking (…) there's no point, you know. And I just stayed old school from there, kind of never bothered about it, you know. (George)

We will return to this issue in our discussion of social contexts below. However, while a greater awareness of online opportunities may have helped some of the young people we spoke to, this was not always the case. For example, many of this group had very little money, so using the Internet for cost saving purchases was not an achievable goal.

Physical resources

Non networked devices offered many of the interviewees alternative opportunities for information, entertainment and communication. Television was often an important feature as an entertainment source, but sometimes for information too:

> TV gives me the drive to go out and do things….like when I was younger I would watch Time Team and go digging for gold coins….watch fishing programmes and go fishing. (Nick)

Mobile phones were typically very important, particularly for communicating with friends via text. It is notable that contrary to common opinion, not all had a smartphone, and even if they did it was not always connected to the Internet. Jack, who was clearly aware of his relatively unique status as a non Internet user compared with his peers explained how he could look like everyone else in terms of his technology use:

> I am not really bothered about it, because it just seems normal for a 17 year old to be walking around either texting or on Facebook, it just looks normal (…) other people will not know if I am doing it or not, if I am on my phone I could be texting or doing anything. (Jack)

One of our participants did not have any kind of mobile phone or landline connection at their home due to costs. "Pay as you go" as opposed to contracts was common among mobile phone users.

Interestingly, the few interviewees who accessed Facebook via their mobile phones did not regard this as using the Internet.

For some interviewees, the Internet did not really offer them any strong social opportunities that could not be more easily supported by a phone.

Jeff told us that, "the phone is a really good thing." When asked about not using Facebook he told us that he did not really "feel that he was being excluded from anything". Perhaps significantly, he had strong local social connections. He was a drummer in a band that met several times a week. "We've got a couple, a good, like good singers that we're working with at the moment. Yeah. And we produce our own beats and all that stuff, so, you know, we're just trying to push forward with that stuff, as well." (Jeff)

BlackBerrys were used by some interviewees, and BB messenger was used instead of going online, often being preferred to texts as it was cheaper, and a way of communicating that was felt to be safe and more controlled than Facebook, something which was particularly important for Jeff. He explained:

> [BB messenger] is kind of the same thing as Facebook, really, but on Facebook you get lots of people sending you, add me, add me, add me, people you don't even know (…) But with this [BB messenger] now, I know that I added you, you understand. You can't add me just if I don't give you my pin. (Jeff)

In contrast, Sergej did not like his BlackBerry as he found it "difficult to use" and so had sold it. However this caused him problems with his friends who did have them:

> It means like—when we are out together, like out—okay we are one group. When we are at home, and everyone is socializing, I'm not in the group anymore. So it makes me feel like yeah, I'm missing out on something. (Sergej)

Gaming was popular with some of the group for entertainment, although the nature of the games played was often limited due to a lack of Internet access. Gaming, even if conducted online was seen as distinct to more "formal" or "proper" kinds of Internet use.

It is important to stress here that often, for this particular group of young people, it was not other technologies that they liked to use for information and interaction. It was having face to face contact with people they knew and trusted. For example, Jeff had found his current job through his friend, and family members had told him about the hostel that he lived in. Often this preference for personal information sources was based on trust and concerns about being conned online. Similarly Anna liked to get information from a person:

> [Int: What about information on being a mum?] I prefer going somewhere where I can talk to someone face to face rather than reading it on the Internet. My mum signed me up to a few groups, but it is to her email account, so she looks at it – I don't. (Anna)

Thus while technologies were important, people were often more so.

As noted above, a common reason people gave for being a lapsed Internet user was due to a change in level of Internet access, often due to losing access at school. Few had experienced Internet access at home at any point in their lives. Indeed, only one interviewee who defined themselves as a discontinued Internet user, Anna, had current Internet access at home via a laptop. More typically the young people we spoke to accessed the Internet in public spaces such as libraries, Internet cafes, or on a mobile, and / or at friends' houses. Those who were more "connected" to the Internet tended to be the only ones who knew about the availability of Internet access in libraries and who made use of this facility. Those who were least knowledgeable tended to rely on friends:

> Once I wanted to use the Internet, but I didn't know where Internet café was. The library was closed—it was during Christmas (…) and I just asking people to get where Internet café is. And finally I found it and I used the Internet. I remember I asked many people, I said, "Is there Internet café around here?" Finally, one guy showed me and I used it and I paid one pound. (Aaron)

A change in access did seem to make a striking difference to how people felt about their level of connection to the online world.

> I suppose you don't know what you've got until you miss it, if you know what I mean, until it's gone. (Andrew)

Jack, who had less access now because he had walked out of his home where Internet was available felt "particularly" left out despite the fact he had only used the Internet to check his email at the beginning of each month to check his game fixtures. Perhaps just the potential to do something, even if he didn't, made him feel closer to the activity.

The degree to which the people we interviewed were satisfied with their level of access varied, but for many it was not sufficient and led to the missing out of opportunities.

As Alan, one of our interviewees who fell into the "narrow Internet user" category explained:

> One day I was doing that assignment; there was a deadline; (…) and then suddenly the library closed and they told me to log off. And I was just—I told her, but she was like, "No, it is closing time, I cannot give you more time." That was the day I felt like I needed to buy a laptop (…) So that's when—when you've got an assignment done and you need to upload it and you don't have the facility or Internet to do that. It's just—that's the things you feel like left behind. (Alan)

The frustration that some young people felt due to problems with Internet access were clear:

> It is just hassle everywhere, just hassle everywhere you go. It is either a restriction on a website you want to go on, or there is only certain times you can use the Internet, or you have to get a password. Do you know what I mean? There are so many restrictions it makes you want to give up. (Reena)

In our discussions with this group of young people we found some quite surprising ways of accessing the Internet. For a while Sergej gained access to the Internet by stealing smartphones in London which he used before selling on. However, there were times when this became impossible. He referred to the 6 month period when he was sleeping rough as an "empty period" in terms of Internet access and use. Spending a month disconnected from the Internet while working on an isolated farm in Eastern England: "Mostly the shops, they were far away, like three miles away or something. I had never seen a place like that. There's like fields around—there is just one house, this one house, like a farm house." After that job finished he returned again to sleeping rough in London, but his previous ways of gaining Internet access were blocked by being "banned from almost all [of a part of London], right, the best area [for stealing phones]", having received an official warning from the Police.

It is worth stressing here, that those who had any kind of experience of using the Internet on a mobile device tended to describe it as being quite limited due to issues with speed, usability and cost. The notion of the mobile as a solution to digital exclusion seems to us not sufficient and based on inaccurate assumptions about this group.

Socio–cultural resources

The family is an important source of support for all young people as they make the transition into adulthood. While in the UK the period of adolescence is lengthening, it is for the most part dependent on socio–economic status, with those from less well–off backgrounds having to grow up faster. We found this quite clearly in our group, where many no longer lived with their family, and did not necessarily have a great deal of support or were far away:

> No, I haven't really got much family, all I've got here is just like my partner, my dad, and my sister. And my sister haven't got somewhere for herself. I don't really get on with my dad. So, it's basically I'm on my own if you kind of see where I'm coming from. So that's how it is, really. Just trying to sort it out, you know, just trying to sort out my life, yeah, get back on track. (Jeff)

Regardless of current or previous level of support in general, few of our participants tended to recall significant support from their parents to use the Internet and were unlikely to have had a computer and Internet access at home. This was often because of the limited skills and use of the Internet by parents and other family members. As Karen explained, when reflecting back about her experiences of not having the Internet at home when she was still at school:

> In a sense I felt left out (…)but it was like there was nothing I could really do about it. Like I mentioned it to my mum about the Internet, about getting a computer, but she was like, "no it is too expensive"(…) well there was nothing I could do – I can't force her to get it. I didn't know how to use it anyway (…) but it could have been [useful] (…) Everyone was using it then and it was like big on MSN and I suppose I did feel a little left out. (Karen)

We sometimes also saw evidence of a kind of disconnect between our participant and their family. Anna, for example, did have home access to computers and the Internet, but while her parents went online, this did not seem to relate at all to Anna's (non) Internet use. When we asked if her mum encouraged her to go online, she said, "No (…)to be fair she is not really interested in it herself." For Amy her parents' use, particularly her mothers, did not seem to count. She told us "My mum doesn't – obviously she reads her email and stuff – and my step dad uses it for his games and the bits and bobs he plays on the computer and that is about it."

Similarly, Jack was very aware that his sister whom he lived with until recently used the Internet a "hell of a lot more" than him, and while his parents helped him change his privacy settings after his trouble with Facebook he did not really talk to them about his (non) use of the Internet or feel that they had any kind of expertise.

George's mother had bought a computer for the home when he was 13, which was not connected to the Internet but which he and his siblings used "to play games on it, on the PC, even to buy a lot of CDs and play it". However, while his mum had purchased the computer and still has one, "she doesn't know how to use it, you know. So, it's just been there in the house, in her house, for some time."

For the most part though, most of the people we spoke to did not have Internet access at home while they were growing up. Thus, for many of the young people in our study, school had been an important resource as they did not

have much access and support at home, and it was often the first place they used a computer. However, the extent to which the level of support received matched individual expectations or needs varied quite considerably.

The majority remembered having some form of ICT lessons that varied in the extent to which they were positively received. For example, Anna recalled using computers at her primary school, but:

> It never used to interest me very much, ICT and that, so I didn't really listen, which is a bit bad (...) but I don't really (...) I don't think anyone was very bad at teaching it just wasn't a subject I enjoyed at school. (Anna)

The other activity recalled most often was using the Internet for research:

> When I was at school and at college, I used to have a look at [Google] for my assignments and bits and bobs (...) it was quite useful then. (Anna)

Andrew, who used the Internet "a lot" more in secondary school compared to his current level of use, recalled the pleasure of online research: "during IT lessons I wouldn't do the spreadsheets I'd be down on the Internet checking out volcanoes or rivers or something else, you know, sciencey things, interesting facts."

While tending to figure out how to use the Internet by himself, not finding the teachers particularly helpful, Andrew talked at some length about the pleasure he gained from online research, spending time on this activity before and after school, and finding "anything from the smallest insect to the biggest volcano and everything in between." But for some reason, this pleasure did not remain, and instead the Internet had taken on a far more functional role:

> I didn't really find any use for it these days, because I'm not in a job where I need to research anything, or anything like that. So I don't really go on the Internet, I don't need to. Unless I'm looking for a job. (Andrew)

Jack cited school as an important place for support and advice in using computers and the Internet – now he had left he was not sure where he would get support from – and had thought that basic ICT had been taught well at school. However, he felt that the more "advanced" and "newer" opportunities online, such as social networking sites and how to use them safely had not really been taught at school. This was exacerbated by the fact that many websites were blocked at school, which meant that the experience of being online was quite limited. In other words, as Jack, told us, he "never got to use the Internet properly at school."

Indeed, similarly limited experiences were highlighted by Jeff, who had learned good IT skills (Word, PowerPoint etc.) in Jamaica before coming to the UK when he was twelve years old:

> Well at school we, you know, when we get assignments and all that stuff, (…) we just used it for like basic researches really. For word meanings, you know, just to find out where a few places are, as well, really. Yeah. Yeah, that's about it really, that we were doing in school. (Jeff)

He explained how "he definitely could not" use Facebook at school as they "wouldn't allow us" and they were not even keen on people checking email, "but you could have done it."

Thus, it seems that while being an important site of access, school offered a kind of limited experience for these young people, which was not sufficient either to learn to stay safe online through encountering and dealing with risk, or to engage in online experiences in any meaningful way. This could be a missed opportunity for helping to ensure that all young people have meaningful interactions with the Internet.

School is of course not just a place for accessing and being supported in using technology; it is an important part of growing up. Some of our participants found school difficult, which had contributed to the current quite challenging contexts of their lives, and which may have also indirectly affected the skills (both literacy and technical) needed to successfully navigate the online world.

As nearly all the people we spoke to had left school, and tended not have Internet access at work or at home, it was often the case that libraries, youth clubs and shelters were an important source of support, both to use the Internet and for other forms of information. However, these access locations were often problematic:

> When I was outside [name of place], the library was very far away and I didn't have [Internet] access in the house. At that time I felt so worried because I didn't have access in the house, I couldn't use it once in a week. And one day I went to the library to check for a ticket, and it was closed. I had been walking a long way, it was raining, and when I arrived there it was closed. I felt so bad. I had to wait until they reopened. It was Christmas time. I had to wait for one week until they reopened. I felt so bad. (Tanya)

However, they were nonetheless essential for this group of young people. Thus, the recent cuts were of concern to many of the people we spoke to:

> [Int: what would you do if this place was shut down?] What can you do? Nothing, you would have nothing. You would seriously have nothing. And there was a march and stuff about all of this stuff. And it's just, Boris, the mayor and the government just decided to cut the funding, and say we haven't got no money because of recession. And so a lot of young people are suffering because of it. (George)

Also, the extent of support people had to go online varied considerably. We were told about situations where our interviewees had been given print–outs of information or people had used the Internet for them. We were also told about situations where our interviewees felt staff had (incorrectly) assumed they were able to use the Internet – as Josh explained: "they are like you seem alright on the Internet". Karen felt it was "too late" for her to learn how to use the Internet and so felt unable to ask for help in these situations. Similarly Nick told us:

> At the Jobcentre everyone was like send a CV via email and I was like (...) how do I do that? And I didn't want to ask anyone. I was like I should know this, I should know this by now. (Nick)

As noted above, the assumption that people hold that all young people can use the Internet effectively, made it difficult for this group to ask for help.

Friends were sometimes a source of support in terms of learning how to do things:

> I had friends showing me what to do, to sign up for stuff and all that, but, 'cause I'm computer literate I kind of know what to do. (Jeff)

There was also at times a source of encouragement, in a certain kind of way:

> I got made to get Facebook. So I said that is it, I am not getting anything else, I'll have Facebook but I won't have MSN. (Anna)

However, for many we often saw a kind of disconnect between this group and their friends' uses of the technology. For example, we rarely managed to use a snowball sampling technique when recruiting interviewees as they were often the only one in their peer group who did not use the Internet.

The friendship group also influenced the extent to which there was a need to go online. As noted above, face to face contacts supported by a mobile were often the most fruitful kinds of connections.

In contrast, for Andrew, the unpredictability of shift work was affecting his friendships and so he used Facebook as that was the place he could access his friends:

> I used to always be around at my friend's house, or, girlfriend's, or something like that, you know what I mean. I used to always—but now, just don't have time, I don't get a chance to see them anymore. Only time I speak to them is ringing them up or if I see them on Facebook or something like that. I don't really—it's quite sad, actually. (Andrew)

Similarly, Graham had found that he was losing touch with his friends after school, particularly as some of them did not live nearby or had found employment. He had got a friend to help him set up a Facebook profile. There was no need for one before then because , “well in school I saw all my mates but after school I saw them less and less (...)with Facebook I can still talk to them.” He then checked his profile about once every three weeks at a friend’s house to keep in touch. Facebook was not a solution for everyone, though, as it is not capable of creating social groups where there is not a strong group already.

> I don’t have a lot of friends, but if they are not far, then by phone obviously. The few friends I do have, but I don’t have a lot of friends. Some have like a thousand friends on Facebook, but I don’t have that many friends. (Denise)

It also sometimes made things more difficult for those who did not use it.

> I don’t have a lot of friends now it seems. Because I have been forgotten about because I don’t have all these little network things that they do. (Karen)

Within this group, proxy use was apparent. For George, who just was not really in a moment in his life when the Internet was an important issue, he did connect to the Internet via someone else, by paying his friend to use the Internet for him, which he found satisfactory as he did not need to pay an Internet café, and it seemed like a fair exchange. It meant that:

> I don’t really need to be in front of a computer constantly, having to, you know, type, and—because I’m not such a good person at typing anyway. (George)

> Yeah, sometimes I do. Like if I have a friend that I trust I can send him or her to go to my email and check whether someone has sent me a message that is really important. Yes, they can check. (Alexandra)

For Tasmin, proxy users was the most important way that she connected to the Internet, and when we asked her about her most satisfying and meaningful engagements with the online world these turned out to be scenarios where other people were using the Internet on her behalf. She had mixed feelings about this extent of proxy use:

> Sometimes I would like to just not keep asking people for their help sometimes because I just feel like I probably irritate them(…) because I keeping asking them (…) but in a way it is good because I don’t need to do it because they can do it (Tasmin)

However, not everyone engaged in proxy–use, perhaps due to the social stigma attached to asking for help, or due to a lack of absolute need to use the Internet and an attempt to get round the problem using alternative sources.

Thus, the social–cultural contexts that surround young people were very important, but we did not find many instances where these contexts tended to extend or develop their uses of the Internet in any meaningful way. These young people had limited amounts of social capital in respect to this aspect of their lives; indeed, some of them seemed to feel very isolated.

Material resources

It is clear from the discussion above that many of these young people did not have significant resource with respect to education, occupation and income, and this undoubtedly has an influence on their Internet (non) use. This is in line with a growing body of academic research on technology use by people with a lack of material resources which suggests that such ‘hostile’ material infrastructure is not conducive to engagement with new media technology (Prahalad 2006). These issues are clearly intertwined throughout the discussion above and do not need repeating here.

One issue that is particularly important is that those who had unsuccessful engagements with education often looked back with regret, and wished they had made good use of opportunities at school both to get a general education and also to learn about the Internet. Nick, who left school with no qualifications, told us “I didn’t understand, didn’t care, didn’t think it mattered” when he was introduced to the Internet. Josh was finding it hard to get a job as he had no qualifications, and he wished he had a “second chance.”

As would be expected, our study suggests that the lack of material resources in terms of income had a particular impact on having Internet access for many, although not all, of the participants. The lack of income was sometimes severe, for example, not enough food to eat at the end of the month was a concern for some of the young people.

Not having an occupation seemed to heighten the need for most young people to use the Internet in order to search for jobs and housing. Thus, the opportunities in the online environment often exacerbated the level of disadvantage this group of young people encountered relative to more mainstream users of technology.

Meaningful online interaction

The five resources discussed above work together to contribute to the extent someone uses the Internet and if that interaction is a meaningful and satisfying one.

For some young people, limited resources in one of these five areas can be overcome if they are more resourceful in other areas, and are at a stage in their lives where they see a need to use the Internet. For example, a lack of material and physical resources meant that young people needed to rely on other resources, and to find, often highly creative, ways to access and use the Internet meaningfully. Marcus, for example, navigated this challenge and compensated for the lack of material resources through his psychological resourcefulness and motivation to use the Internet by accessing it in Apple stores:

> It's a place in Covent Garden, I don't know if you know—Covent Garden, close to Charing Cross, and every time when I finish work I go there, check my e–mail, speak with my family, with my friends, stay something like half one hour, and after that go home. [Int: Is it like an Internet cafe?] There is Apple, the iPhone, everything Apple, Mac Book, you know, and you can use because, like they sell these products, they sell. [Int: An Apple Store?] Apple store. And you go there and you can stay on the Internet how long you want. (Marcus)

While a lack of physical and material resources can be overcome at times, on other occasions, a lack of resource in only one area can lead to a lack of meaningful use of the Internet. For example, Jack had all the resources apart from a psychological motivation to use the Internet due to fears about his safety due to his previous bad experiences. Objectively he had good reasons to be using the Internet, for job searching and finding somewhere to live. However, the concerns he had were so great that this prevented him from using the Internet in any kind of meaningful way. It had been three years since the bullying had begun, and even though he had left the school where the bullies were, the danger still disturbed him when he thought about the online world.

The case of Graham, who had IT qualifications from school and had his own laptop but no Internet access, shows that skills are not sufficient to lead to meaningful use; other factors, such as agency and support from others, is needed. Graham did not look to the Internet to help him find a job (which he very much wanted) and did not seem able to mobilize the resources he had, despite having in objective terms at least good reasons to use the Internet.

As people move further away from the digital mainstream in terms of the number of resources they can mobilize, any kind of meaningful interactions with the online world become more difficult to achieve.

It is also important to stress that the subjective need to use the Internet is key, and it is how this interacts with the five resources available to the individual that helps to understand the outcome in terms of meaningful interactions with the Internet. Thus, there are some young people who have sufficient, if less than ideal, resources but who do consider themselves significantly disadvantaged by being a low or discontinued Internet user:

> It [the Internet] is not important to me because I've gotten by without using, it. (…) I do understand that in this time, now, Internet is really, really important, and that you know, so much can be done on the Internet. It's true, but there is still a lot that you can do without the Internet. (George)

> I don't find it that amazing to be honest. I really don't. Like I said I would never rule it out. (Hannah)

Thus, when thinking about meaningful interactions, it is important to consider the interaction of these five resources, along with the subjective needs young people have to use the Internet, based on their current context. However, we suggest it is also important to consider the objective needs of this group where many services and opportunities are moving online.

Indeed, from our data, we believe that these young people are increasingly disadvantaged, and that the gap is widening between them and those young people who are in the digital mainstream. In line with Van Dijk we suggest these disadvantages are occurring due to a lack of access to information, inability to use information effectively, and reduction in power in the network (Van Dijk, 2006). In particular, we see growing inequalities in the production aspects (e.g. trying to find a job) and social aspects (e.g. interacting in meaningful ways with friends and family) of everyday life (Selwyn, 2004: 350–351). These young people will be increasingly disadvantaged as the digital by default philosophy begins to apply not only to government services, but also to the private sector and the third sector during a time that is marked by recession and cuts.

While in theory these young people use the Internet, this does not make them a group that does not need support in terms of a digital inclusion strategy. Currently, the very infrequent use of the Internet that is evident in our study comes nowhere close to the kind of online interaction experienced by their peers in the digital mainstream.

What this highlights is a need to define what we mean by "going online" in ways that are sufficiently meaningful for life in the 21st century. In the policy literature, there is perhaps too simplistic a view that use of the Internet is a "good thing" and that more is better (Wyatt, 2003). The Internet is seen as a way to provide everyone with certain opportunities (to find jobs, to get government services, to have a say) but opportunities to do these things is not automatically the same as actually achieving these goals (Loader, 1998). Thus, it is not simply about use, but about meaningful or effective use, in that using the Internet leads to some positive outcomes. Selwyn suggests a shift away from just thinking about use of the Internet to more of a focus on meaningful use or engagement. That is where meaningful use is: "where the user exercises a degree of control and choice over technology and content. Use could be considered to be useful, fruitful, significant and has relevance to the individual." (Selwyn, 2004: 352).

For many of the group studied, the kind of Internet use they were experiencing was not sufficiently meaningful. Given that the majority of activities that young people engage in can be mediated by some kind of technology (Livingstone, 2009), it may be possible that for certain cases and individuals, technology can facilitate or support particular transitions or turning points. Indeed, in a wider mixed–method study of teenagers and technology in the UK, a key finding was that digital technologies were particularly valued by teenagers for the ways in which they enable them to do things for themselves, helping them to become an autonomous individual in the world (Davies and Eynon, 2012; Steinberg, 2002: 288). However for many of these young people, who have not had similar experiences of the Internet in their past compared to the majority of their peers, and who are not likely to have a strong set of resources to use the Internet, the likelihood of the Internet supporting their transition into adulthood in meaningful ways is unlikely. Furthermore, sometimes these young people have a different set of priorities, and the Internet does not easily offer a solution to these needs.

Foci for policy and practice initiatives

The widely–held and very powerful assumption by government, commercial organizations and the wider public seems to be that all young people are confident users of the Internet who, born as a 'digital generation', are all able to navigate the Internet skillfully and successfully.

What this report demonstrates is that this is simply not the case for all young people. Despite this, the public assumption that the current generation of youth is 'born digital' is so powerful, that is has informed numerous policies and initiatives in the UK that determine young people's lives.

For example, the UK ICT Strategy paper (2011) pledges that "The Government will work to make citizen–focused transactional services 'digital by default' where appropriate using Directgov as the single domain for citizens to access public services and government information. For those for whom digital channels are less accessible (for example, some

older or disadvantaged people) the Government will enable a network of 'assisted digital' service providers, such as Post Offices, UK online centres and other local service providers" (§45, UK ICT Strategy 2011).

'By default' strategies lie at the core of the concept of 'libertarian paternalism', which was initially advanced and popularised by two American academics, Richard Thaler and Cass Sunstein, and which has since been adopted by a number of governments around the world. In the UK, it has inspired the creation of the Cabinet Office's Behavioural Insight Team, commonly known in Whitehall as the 'Nudge Unit'. The idea behind libertarian paternalism is that the government should gently encourage citizens to act in socially beneficial ways, without infringing their freedom or liberty, and through that, to improve economic welfare and wellbeing for the whole of society. Governments do so by reorganizing the context in which citizens make certain decisions, a strategy also referred to as 'choice architecture'. To take a common example, it may not be at the forefront of a learner driver's mind to sign up for the organ donor register, but by asking learner drivers whether they would like to join the register at the end of their application for a provisional driving licence, many learner drivers may choose to opt in.

To apply libertarian paternalism choice architectures to issues where citizens have the freedom to make a choice is rational. But by applying the concept to issues where citizens do not have a choice, maybe because of restricted resources, 'by default' strategies risk becoming a tool for social exclusion. This poses a democratic problem, particularly when there are clear benefits of moving government services online. Older citizens who do not go online often cite a range of factors, such as a lack of skills, a lack of interest in using the Internet, and lack of availability. While these reasons are complex, there is often, at least to some extent, some element of a digital choice taking place. Thus, for many people within this group, digital by default strategies that encourage citizens to use the government's online services may work well. But without careful analysis and adequate support, such 'by default' strategies pose a threat for those young people with restricted resources (psychological, cognitive, socio cultural, physical or material), who are high users of government services but infrequent and limited users of the Internet, yet who consider the Internet to be a normal part of most people's everyday lives.

Because of the pervasiveness of the Internet in young people's lives it can be argued that is a necessity that young people are able to navigate the Internet meaningfully. Arguably it is therefore the government's responsibility to make sure that all young people, regardless of the levels of their resources, have equal opportunities to access the Internet and interact meaningfully with it. Government needs to find creative ways to ensure that those who do not currently have access, and/or who cannot interact meaningfully with the Internet but who are required to do so, for example, to look and apply for jobs, get adequate help and support. The fact that all the young people we spoke to recognised the importance of the Internet in everyday life, and typically had some level of interaction with it, is a positive sign that intervention is possible.

Drawing on the work of Berlin (1969), we propose that there is a need to differentiate between positive and negative liberty. In simple terms, positive liberty can be described as a freedom to do something, while negative liberty can be described as a freedom from barriers, obstacles and constraints. Many of the young people we interviewed were struggling with barriers to access the Internet freely; these barriers often being a lack of material resources. In addition, a number of the young people showed low levels of skills and internal psychological and cognitive resources, which restricted their possibility to recognize the importance of interacting with the Internet and having agency to do so. However, neither the mere absence of obstacles to access and use the Internet, nor the mere autonomy and motivation to use the Internet alone, are sufficient to result in meaningful online interaction. A meaningful interaction with the Internet can only result from having autonomy, agency and skills, and access to the Internet. Government and practice have in the past often mainly focused on barriers and obstacles, and their removal. This is an important start. However, our research suggests that only by also focusing on supporting young discontinued Internet users in developing their agency and skills, and thus in developing positive liberty, can a meaningful interaction with the Internet result for this group of young people. Below we propose some potential strategies to address this issue.

Psychological strategies

Ong (2002) has argued that "technologies are not mere exterior aids, but also interior transformations of consciousness" (p. 81). Consequently, not using a specific technology, and living outside the digital mainstream, is therefore tightly linked to psychological resources and psychological impact.

All of the young people we interviewed stated very clearly that the Internet has become a crucial factor in their everyday lives. Although some of the young people voiced their discontent and fear regarding content online, and although all the young people varied considerably regarding their perceived subjective need of having to use the Internet, none of them could be classified as an "Internet refusnik". Even though some participants were not necessarily keen on the Internet (i.e. did not see a high subjective need to use it), all of them had a more or less strong 'objective need' (i.e. a requirement) to use the Internet, for example for job applications, or to support education or housing needs. A number of the young people we spoke to were very motivated to use the Internet in order to change their current situations and showed a high level of agency, while others did not display the same level of psychological resourcefulness.

Given their current transitional life contexts, instead of having an experiential approach towards their Internet interaction, all of the young people interviewed, without any exception, displayed a tool–based approach towards their use of the Internet. The implications of this tool–based approach for support structures will be discussed in the socio–cultural section below. From a psychological point of view, a tool–based rather than experiential–based approach means that young people will find it more difficult to transfer their knowledge of using the Internet for one purpose, for example to apply for jobs, to other purposes. They will also find it more difficult to find out what the Internet can offer them, and to update their knowledge and skills about the online world throughout their lives.

Thus, there is a need for policy and practice interventions that create incentives for young people to explore different functions and applications of the Internet more broadly, in order for them to then be able to make a more informed judgment about what the online world can offer them. This starts by first identifying young people who live outside the digital mainstream, and by communicating to them that it is not a stigma, or indeed something to be embarrassed about, to find it difficult to use the Internet. Initiatives where young people who used to be outside the digital mainstream reach out to young people who are still outside the digital mainstream, or encouraging more opportunities for "messing about" online within formal support structures (see below) may be possible intervention strategies that improve young people's psychological resources to use the Internet.

Cognitive strategies

Our study suggests that young people outside the digital mainstream often have poor Internet skills and display a remarkably low range of things they can do online. Many of the lapsed Internet users whom we interviewed did not know some of the most basic things, like how to attach a document or a picture to an email, or how to download and save an online document, for example for a job application, onto a computer. The young people also showed a lack of understanding of the range of things that are possible online, and where to ask for help. We believe that the development of online skills, both formally (in schools), and informally, be it through youth clubs or peer–to–peer groups, needs to become a focus for policy and practice. Not addressing this skills deficit among this group of young people will create a considerable knock–on effect in the future for these people, and may lead to further problems as they enter a job market that is highly reliant on a digitally skilled labour force.

Supporting these young people in improving their cognitive resourcefulness with regard to their interactions with the Internet means that we need to counter the widely held assumption that all the young people of the 'digital generation' are digitally skilled.

Physical strategies

While in theory everyone can get online, the lack of a sustained, reliable access point to use the Internet had a negative influence on our interviewees' use of the Internet, or their likelihood of using it for certain tasks. Our research suggests that the quality of access to the Internet for these young people is often not sufficient. Contrary to popular opinion, many of them cannot afford to access the Internet on their mobile phones. We also found that while mobile phones or BlackBerrys can in some ways compensate for a lack of Internet, particularly when it comes to social functions and applications, they are not a sustainable solution with regard to purposes such as applying for jobs, education, and the search for housing, which were the main priorities for most of the young discontinued Internet users we interviewed. Mobile devices, while they may improve and be beneficial for other purposes, do not seem to be the way forward in terms of Internet use, not least because of their cost and usability issues.

Social–cultural strategies

From our research and other work in this field, we know that support networks are key to supporting meaningful Internet use. In this area we have identified four specific challenges:

i. Some public support structures are not necessarily aware of the considerable size of the group of young people living on the periphery of the digital mainstream, but instead assume that all the young people are digitally engaged and feel confident using new technologies. This is clearly not the case. However, this can easily be changed in policy and practice by raising awareness about the existence of this group of young people living on the digital periphery. Since young people themselves will most likely not raise the issue, and will not express that they find it difficult to use the Internet, as they may feel embarrassed about it, they could be identified by staff. This might be via a simple assessment question when they first register with the JobCentre. This assessment should avoid making these young people feel alienated or stigmatised. Staff can then offer them adequate support and help in using the Internet.

ii. Whilst young people outside the digital mainstream have tended until now to get support from social workers and in youth clubs, these support structures are increasingly affected by cuts: youth clubs are being closed, and staff numbers reduced. While these cuts cannot be reversed, at least not for the time being, in the case of closures of youth clubs other support structures must take over the important function of providing support to this group of young people so that they do not fall further behind. Our findings suggest that this surrogate support should include community structures young people might use in any case, for example IT surgeries in sports clubs, pubs and churches provided by people of these associations. Up to now, libraries have been important providers of Internet access to young people who otherwise may find it difficult to get access. However, a number of the young lapsed Internet users we talked to did not know that libraries provided this service. Communicating the services on offer in a more targeted way to these young discontinued Internet users seems therefore another important focus for policy and practice. Currently, many of these messages are targeted at older people.

iii. Low levels of social capital among young people who use the Internet infrequently, partly related to their often transitional situations, may mean that they are not part of established community groups, and may not be part of social networks that can provide them with support in using the Internet. For these young people, we suggest that grass–roots peer–to–peer support from young people who formerly lived outside the digital mainstream might be the most effective way of getting these young people to use the Internet more meaningfully.

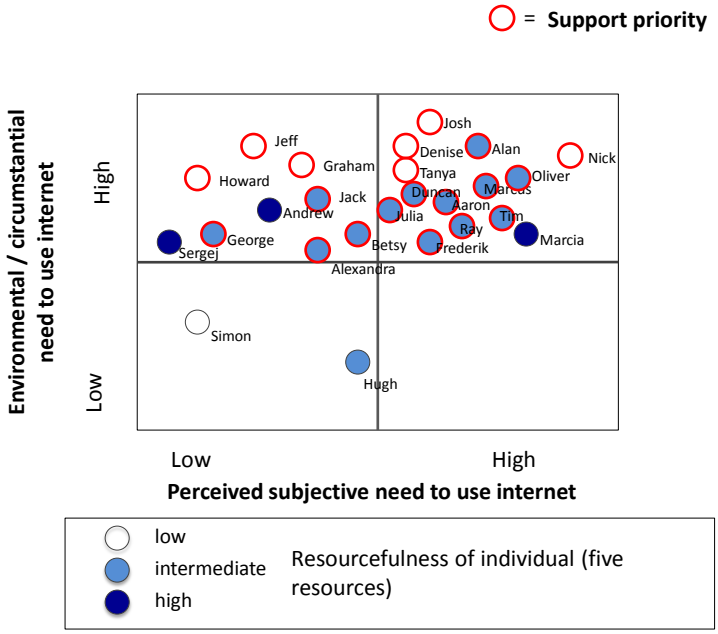
iv. Schools play a crucial role for these young people, as they were often the only location for support and Internet access while they were in education. However, it is challenging for schools to offer the necessary level of support for this particular group. In many schools, due to a lack of resources and a fear of young people encountering harmful content, young people are not allowed to explore and experience the Internet freely. Instead of being taught how to use the Internet meaningfully and responsibly, and how to deal with encountering difficult content and cope with the possibility of being bullied online, including where to get help, these young people experience a more limited kind of Internet due to heavy filtering systems. Thus, outside school they are left to their own devices and have to cope, depending on their own resourcefulness, more or less successfully. This is problematic, as it leaves already disadvantaged pupils even more vulnerable, and means that they are less likely to have a strong understanding of the range of opportunities and risks online by the time they leave education.

Material strategies

Most of the young people we interviewed were receiving some form of financial support from the government and were currently unemployed. A number of them had dropped out of school and did not finish education. Our research suggests that giving people a second chance in education might be really important; this implies that young people need to be supported not only in finding jobs, but encouraged to continue and complete education, too. This must become a policy and practice focus, as it is hard for young people who dropped out of school and who have been unemployed all of their working life to know where to start in terms of continuing education and improving employability. To communicate the importance of education must therefore be at the forefront of these policy and practice efforts.

Each individual has a different understanding of how important it is to use the Internet. This understanding is formed by a perceived subjective need to be able to access and use the Internet meaningfully (e.g. a need to use the Internet to be in touch with friends and family or to use the Internet to improve one's life), and an objective need (e.g. external requirements to use the Internet, depending on current life contexts, e.g. requirements to apply for jobs online if currently unemployed). Together with the five levels of resourcefulness discussed above we can begin to assess the support needed for each young person (figure 4).

Figure 4 Assessing policy and practice support priorities



While the precise needs of each individual differ, it is important as society becomes increasingly networked that young people have the necessary resources to meaningfully use the Internet, if they wish to do so.

Based on the findings of this project we recommend that strategies should be developed that specifically target young low and discontinued users of the Internet, to address the challenges highlighted in this report, and to ensure that these young people who find themselves in an 'Internet by default' generation do not become further disadvantaged.

Summary and conclusion

The rhetoric around young people's uses of technology are leading to assumptions and practices that are likely to make some individuals even more excluded from society in two main ways. First, such assumptions lead to an increased likelihood of a lack of support being offered in the engagements they have with the organisations that are designed to help them. When such assumptions are strong it makes it difficult for people to ask for help.

Second, while a 'digital by default' strategy works well for those who need to be persuaded to do online, such a strategy does not work well for this group of young people who are willing to go online, but find it difficult to do so for a variety of reasons. As more and more services both in and outside the public sector go 'digital by default', for example, supermarkets only accepting online applications, the relative disadvantages for this group increases. We need strategies that both remove barriers to being online and support young people in developing their agency and skills to use the Internet.

Thus from our analysis we would propose strategies that:

- Facilitate connections between young people who used to be outside the digital mainstream and those who are currently still living outside the digital mainstream.
- Allow for the possibility that young people may need support in using the Internet and enable young people to identify problems with their skill sets that they have with going online.
- Improve the quality of physical access to computers and the Internet for these young people.
- Move forward with educational initiatives to ensure all young people have an opportunity to fully explore the online world and develop all the skills needed to support that process while in education.
- Create initiatives that may develop and extend social capital for these young people.

In some ways this report offers some positive messages. While these young people are well aware of their difference in relation to their peers, and do not see themselves as proper Internet users, they are able to access and to some extent use the Internet and see it as a normal and necessary part of life. Speaking in social–psychological terms, not being able to navigate the Internet for these young people outside the digital mainstream means they are no longer part of the 'in–group' of the other young people who can, but belong to the socially 'outcast', the 'out–group'. As social psychological research on in–groups and out–groups has shown, belonging to 'out–groups' can have a significant negative effect on identity development and the perception of self. For young people who are already disadvantaged this is less than ideal. Acknowledging this group exists, incorporating a more nuanced understanding of what it means to use the Internet in a meaningful way, and developing strategies to reduce digital inequality would significantly help in this regard.

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Appendix

Table 2: OxIS and Becta items used in typology

Category	Items used (OxIS)	Items used (Becta)
Psychological Attitudes and motivations towards the Internet Agency	Level of interest in the Internet (Generally speaking, how interested would you say you are in the Internet?) Why did you begin to use the Internet?(To try out, thought it might be interesting, I had to use it for work, I had to use it for school, Someone else recommended it to me, I used to have access at home/work/school, Help my children with their homework, I wanted to keep in touch with family/friends, Get a better deal by buying products/services? And which of those reasons was the most important?) General views of technology (Agreement: it is a good idea to try new technologies or gadgets? Technology is making things better for people like me? Without new technologies society can no longer function?) Missing out by not using the Internet (Agreement: I miss out by not using the Internet and E–mail? I sometimes feel left out when my friends talk about Internet? I could perform better in my daily tasks if I used Internet? The Internet makes life easier?) Internet for communication (Agreement: The Internet allows people to keep in touch with each other, It is easier to meet others on the Internet than in person? On the Internet people can say things they cannot say offline) Internet and time (Agreement: The Internet helps people save time? The Internet is an efficient means for finding information?) Internet and time wasting (Agreement: I wasted too much time on the Internet, Dealing with email takes up too much time. I find dealing with the amount of info on the Internet exhausting. I waste time on irrelevant info to get to what I am looking for?) Trust and privacy (People can find personal information about me on the Internet. Once personal information is online it is very hard to remove. Use of computers & the Internet threatens personal privacy) Shopping and the Internet (People get a much wider choice of goods on the Internet, The prices of things on the Internet are lower, It's difficult to return or exchange goods ordered on the Internet, Uncomfortable with lack of face–to–face contact when purchase, It is easy to order products from web–sites, It's difficult to assess product	Why did you begin using the Internet? (To see what you could find? You had to use it for school? You had to use it for college or university? You had to use it for work? Friends encouraged you to? Parents encouraged you to? Other?) Missing out (Agreement with statements about not using the Internet: You are missing out by not using the Internet and email? The Internet helps you become successful in life? You sometimes feel left out when your friends talk about the Internet and information (Agreement with statements about not using the Internet: You can find out all you need from books and other sources? The Internet is a quick way of finding information? You would get or have got better marks at school, college or university if you used the Internet?) Internet and communication (Agreement with statements about not using the Internet: The Internet makes it easier to keep in touch with people?) General attitudes towards technology (Agreement with statements: Technology stops you being bored, You enjoy using technology, Technology helps you to learn new things, Technology is important in your life) Use (Do you want to start using the Internet again in the next year or so?) Problem solving approach to technology (How important were each of the following in helping you learn how to use computers: Working things out yourself? Agreement with statements about trying to understand how to use something new: You try lots of things to see what works? You try to figure it out for yourself? Agency (learning): (Agreement with statements: You learn new things on your own just because you want to? You enjoy learning new things? You like any opportunity to discover something new?)

	quality when shopping on Internet) Politics and the Internet (Agree: Thru Internet: People like you can have more political power? People will have more say about what the govt does? People like you can know more about what govt does? Public officials know more about what people say?) Better off NOT using the Internet (Agreement: I am better off not using the Internet. Often it is easier to do things without using technologies) Use (I would like to use the Internet in the future) Agency (Agreement: I find it difficult to keep up to date with new technology, The Internet is frustrating to work with, If I want to concentrate I turn off all media and cmms devices, I get nervous using technologies; bcs I might break something, I do not trust technology; it fails when you need it the most.)	
Cognitive Skills Prior experiences with the Internet Opportunities	Negative experiences (Did you Receive obscene or abusive e–mails, Receive a virus onto your computer, Buy something which had been misrepresented on a Web site, Have credit card details stolen via use on the Internet, Get contacted by someone online asking you to provide bank detail, Ended up on a pornographic website accidently) Breadth of use (Did you use the Internet for: Checking emails? Finding or checking a fact? Downloading music? Signing a petition online? Getting info about local council services? Getting info school/college/university projects? Posting messages on discussion/message boards? Getting information about local events? Using your bank's online services? Getting info about or comparing products? Making or receive phone calls (VOIP)? Making travel plans? Getting jokes, cartoons or humorous content? Paying your bills online? Playing games online? Listening to music online? Watching movies or films online? Watching TV programs online? Check or update a social networking site? Post writing, stories, poetry, creative work? Post pictures or photos on the Internet?) Successful outcomes (Did you ever: Find a job through the Internet? Save money buying something online? First find out about an event through the Internet? Find info on the Internet that helped improve your health?) Level of experience (For how long did you use the Internet?) How long ago did you stop using the Internet? (How long ago was it that you stopped using the Internet?)	Skills to use computer and the Internet (How good are you at using 1) computer / laptop and 2) Internet? When you used the Internet, how good were you at? Finding the information you need on the web? Sending an instant message? Downloading and saving files (e.g. music, pictures or videos)? Updating your information on a social networking site? When you used the Internet, did you feel confident that you knew how to keep yourself safe when you were using it? How good are you at using: Internet? How good are you at using: Mobile phone? Do you judge your computer skills to be sufficient if you were to look for a job?) Breadth of use (When you used the Internet, how good were you at? Finding the information you need on the web? Sending an instant message, Downloading and saving files (e.g. music, pictures or videos), Updating your information on a social networking site, dealing with a virus managing files) Level of experience (How long did you use the Internet for?) How long ago did you stop using the Internet? (Number of months since stopped using Internet) Intended use (If you did use the Internet do you think you would use it for: Creating something (e.g. music, story, drawing)? Instant messaging? Sending / receiving emails? Discussing issues with people online Using a social networking site like Bebo, Facebook? Doing work for school, college or university? Getting

		information for other things? Playing games? Downloading music? Watch / download video clips? Watch TV on demand (like iPlayer or 4 on demand)? Look for information on careers / education? Look for news?)
Physical Availability of Internet access Access to technologies Use of other technologies Information environment	Home Internet access? (Does this household have access to the Internet? Do you have wireless access in your household such as through wifi?) Access (Is this household planning to get access to the Internet in the next year? Are you planning to get access to the Internet in the next year or so?) Home computer access? (How many working computers are available for people to use in this hh?) Media richness of household (Does your household have: Cable TV? Satellite TV? Digital camera(s)? Web–cam for a computer? Portable Mp3 player (e.g. iPod)? A hand held tablet (eg PDA, Blackberry or iPad)? A hand held reader for books/mags (Kindle/Nook)? Games machine (Xbox, Nintendo, Playstation)? A TV with a built–in connection to the Internet? How many television sets are there in your household?) Other media uses (Do you use a computer anywhere, whether or not connected to the Internet? Do you yourself have a mobile phone? Making phone calls/Talking to others? Sending or reading email? Sending text messages? Playing games? Taking photos? Sending photos? Listening to music (Mp3s)? Finding directions or location? Browse/update a social network site? Browse the Internet?) Where would you go first for information? (Where would you go first, for information on: The name of your local MP, Taxes, Planning a journey or holiday, A book that you heard about, Local schools, A professional, school, personal project, A company/problem with a product?) Importance of information source (For information how important is: Television? Radio? The Internet? Newspapers? Television?) Reliability of media as an Information source (How reliable and accurate would you rate the information in: Newspapers? Television? Radio? The Internet?)	Home Internet access? (Does this household have access to the Internet?) Home computer access (Can I just check, are there any working computers in your home? How many?) Media richness of household (Does your home have a TV? How many channels is it possible to watch on TV in your home? Could you tell me if your home has: DVD player? Way of recording TV? Radio? Digital Camera? Web–cam for a computer? Portable MP3 Player (e.g. iPod)? A games console (e.g. Xbox, Wii, Playstation)? A portable gaming device (like Nintendo DS or Gameboy)? A printer for the computer? Camcorder or Video Camera? Other media uses (How much time do you spend on each of these things during a normal week? Using a games console? Watching TV or video? Using a computer? Using a mobile phone? Listening to music? Do you play computer or console games?) Importance of information source (How important are the following for helping you to find out or learn new things: TV, a computer, Internet, Mobile phone, games, console MP3 player, Books, Newspapers & magazines, Video camera?)
Social–Cultural Socially and politically connected	Socially isolated (How often do you feel you lack companionship? How often do you feel left out? How often do you feel isolated from others?) Social engagement (Participation in: Any social or sport club (eg. gym, music or arts assn)? A residents, neighbourhood, school or other local group? A trade union? An environmental or animal welfare organisation? Any other political or campaigning	Social engagement (How much time do you spend on each of these things during a normal week? Playing sport, dancing or other physical act Doing other hobbies or interests?) Spending time with others (How much time do you spend on each of these things during a normal week? Talking / spending time with your family? How

	organisation? A charity organization or social aid organisation? Religious or church organisation?) Political engagement (How interested would you say you are in politics? Have you: Contacted a politician, government or local government official? Joined a political party? Joined a civic organisation or association? Signed a petition? Taken part in a lawful public demonstration? Contacted a political party? Bought certain pdts for political, ethical, environment reasons? Donated money to a political organisation or group? Donated money to a civic organisation or group?) Spending time with others relative to other media activities (During a week, how many hours: Reading books? Min/week: Meeting/socializing with friends/family from outside your hh Min/week: Watching television) Levels of trust in other people and organisations (How much trust you have in the people running each: Major companies, The Government, Television news, Newspapers, the providing Internet services? How much trust you have in the following people: Most scientists, Most doctors, People in this country, People you can communicate with online? Wd you say most people can be trusted or you can't be too careful?)	much time do you spend on each of these things during a normal week? Talking / spending time with your friends?)
Support in using the Internet & Proxy use	Proxy use (Do you know someone who could send email or use the Internet for you? Have you asked someone to send email, get info from Internet, or purchase) Available support individual (Who could you ask for help on Internet related matters: Parent? Friend? Partner/Spouse? Brother/Sister? Parent? Friend?) Available support institutional (Who could you ask for help on Internet related: Internet café staff? Library staff? A colleague?)	Proxy use (In the past year have you asked someone to send an email for you, get information from the Internet or make a purchase? In the past year have you asked someone to send an email or use the Internet for you?) Institutional support in learning computers (How important were each of the following in helping you learn how to use computers: Primary school? Secondary or upper school? College or university? Work?) Individual support in learning computers (How important were each of the following in helping you learn how to use computers: Parent(s), step parent(s) or guardians? Brother, sister, step–brother? Other family? Friends? Someone at a youth club, community centre? Engagement with friends use of technology (Agreement with statements about friends: Your friends like to use technology, You talk about technology with your friends, You use technology together with your friends)
Material Occupation Income Education Make up of	Education (What is the highest educational or vocational qualification? What is the last type of educational institution that you have attended?) ACORN (ACORN Code, 56 categories, ACORN Category, 5 categories)	Education (What is the last type of educational institution that you have attended or which type are you attending now? What is the highest educational or vocational qualification that you have or that you will receive? Are you currently in full time higher or further education?)

household	Age (Age) Occupation status (Which of these descriptions best describes your current situation? Apart from working, do you also study? And apart from studying, do you also work? Number of people who report to Respondent. Are you self–employed (with or without employees) or are you an employee? Standard Occupation Code) Income (Are you the Chief Wage Earner in your household? Total income of your household before tax?) Gender (Gender) Make up of household (Marital Status, How many adults live in your household (people over the age of 18)? Do any children (people under 18) live in your household? Whether children aged under 10 in household? Whether children between 10–13 in household? Whether children between 14–17 in household? How many children aged under 10 live in your household? How many children between 10–13 live in your household? How many children between 14–17 live in your household? How many years in total have you lived in the UK?) Ethnicity: (To which of these groups do you consider you belong?) Disability: (Do you have a health problem or disability? Does this health problem or disability limit your use of computer/Internet?) Affected by economic crisis?(Directly affected by the economic crises: Yes, a close friend? Directly affected by the economic crises: Yes, a family member? Directly affected by the economic crises: Yes, I have been affected myself)	ACORN (ACORN Code, 56 categories, ACORN Category, 5 categories) Age (So before we start can I just check, how old are you?) Occupational status (So, can I just check – which of these descriptions best describes your current situation? Which of the following categories best describes your occupation? Does your job involve using computers and the Internet?) Gender (Gender) Makeup of household (Can, I just check. Do you live with your parents, guardians or stepparents at the moment? Who lives in this house with you: Mother/ Step–mother/ girlfriend of father, female guardian? Father/ Step–father/ boyfriend of mother, male guardian? Grandmother? Grandfather? Uncle? Aunt? Brothers or step–brothers? Sisters or step–sisters? Girlfriend, wife or partner? Boyfriend, husband or partner? Friends or housemates? Other? How many live in this house with you: Mother/ Step–mother/ girlfriend of father, female guardian? Father/ Step–father/ boyfriend of mother, male guardian? Grandmother? Grandfather? Uncle? Aunt? Brothers or step–brothers? Sisters or step–sisters? Girlfriend, wife or partner? Boyfriend, husband or partner? Friends or housemates? Other? Is English the main language you speak in your home?) Ethnicity (To which of these groups do you consider you belong?) Disability (Do you have a health problem or disability which prevents you from doing everyday tasks at home or school? Does this health problem or disability impact upon your use of a computer or the Internet?)
Reasons for not using the Internet	Why stopped using (Reasons for stopping using Internet: I am just not interested, I moved house/moved job/left school, I no longer have a computer available, It was too difficult to use, It's not useful, It's too expensive, I was worried about my privacy, Bad experiences with SPAM or viruses, I do not have enough time, There's nothing of interest, Is this the same reason why you are currently not using the Internet?)	Why stopped using (We would like to know if any of these reasons were important to your decision: You didn't find it very interesting? You moved house? Your parents decided you didn't need it? You left school where the Internet was available? You left college or university where the Internet was available You left the workplace where the Internet was available? You found it difficult to use? You didn't think it was safe to use? It was too expensive? You had bad experiences with SPAM? It took up too much time? It was too slow / kept going wrong?

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