

Internet use: the digital divide

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The internet is changing the world. Each day, more of us are using, and learning from, the giant global library that is the world-wide web. But not everyone in Britain is able or willing to access the internet. This risks creating a new 'digital divide'.

It has been estimated that world-wide use of the internet jumped from 3 million people in 1994 to 377 million in 2000 (Norris, 2001), with predictions that the internet's market penetration will grow from one per cent to 75 per cent in the United States in just seven years – a position which it took the telephone 75 years to achieve (Putnam, 2001). But behind these figures lies a global disparity between those who do, and those who do not, have access to the internet: twice as many people in Sweden log onto the internet as in the whole of sub-Saharan Africa (Norris, 2001). The global gulf between affluent industrialised societies and poorer developing ones demonstrates the relationship between resources and access to technology, but is there a similar digital divide *within* countries that already have highly developed technological infrastructures? Does access to capital, be it financial or intellectual, also determine whether you have access to the internet in Britain?

The impact of the internet on British life is already clear. The number of major corporations and organisations in both the public and private sectors who do *not* have a website could likely be counted on one hand. Many television programmes, and even the commercials between them, sport website addresses, while most national newspapers have launched electronic editions. The Government has set up UKOnline.gov.uk, a website that offers a gateway to government services and information, and has appointed an 'e-Envoy' within the Cabinet Office to oversee and promote the government's digital agenda. Targets have been set to make the UK the best environment in the world for e-commerce by 2002, to ensure that everyone who wants it has access to the

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internet by 2005, and, to make all Government services available electronically by 2005 (Office of the e-Envoy, 2001).

This explosion in references to websites has led to the common misconception that access to the internet is already near universal. *Coronation Street* – Britain’s most popular soap opera – recently provided details of a website address rather than a dedicated telephone helpline when it ran a sensitive story line – and was roundly censured by the Independent Television Commission for doing so.

Does it matter if there is a digital divide? Debate surrounds the potential of the internet to change the way in which humans interact with others, carry out their business transactions and engage and participate in public life. Whether access to the internet at home will ever become as widespread as, say, television or the telephone is open to debate. Some projections suggest that short-term gaps between users and non-users will in time diminish as it becomes a near universal and much needed commodity. A more pessimistic outlook would counter that the internet will simply mirror (and even exaggerate) existing inequalities in access to information and other resources. And therein lies its danger.

This chapter will first build a profile of the typical British internet user in the year 2000 to address the question of whether it is, or is not, appropriate to talk of a ‘digital divide’ in internet access. We follow this with a more detailed look at internet use more generally. On the one hand, concerns have been voiced about the solitary and socially isolating nature of internet use. Internet ‘chat rooms’ where groups of individuals can contribute to debates, usually confined to singular topics, facilitate communication between people – but it is a particular kind of communication that often will not result in physical encounters. On the other hand, the internet’s ability to bring people together can, it is argued, have the positive impact of strengthening pre-existing social networks. Robert Putnam’s influential work on social capital, such as *Bowling Alone* (2001), which argues that the social and community-based interactions between people have positive benefits not only for the individual but also for society at large, seems to deliver an open verdict on the internet’s ability to complement or diminish social capital. Our broad aim in the final part of this chapter will therefore be to ask whether the internet is, in the spirit of Putnam’s work (Putnam, 1995, 2001, Putnam *et al.*, 1993), a friend or enemy of ‘social capital’.

A digital divide?

In the 2000 *British Social Attitudes* survey, we asked respondents whether they themselves “ever use the internet or world-wide web for any reason”. For those in work, the question added the tag “other than your work”. And for those who said yes, we asked how many hours a week on average they spend using the internet or world-wide web, again other than for their work. The questions were thus designed to measure *personal* internet use, although this could, of course,

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take place at home, at work, in the library, at an internet café, or anywhere else where there are internet connections.

One-third of British people (33 per cent) report that they use the internet other than for their work, spending an average of three hours per week on it.¹ But this, of course, means that two-thirds do not use it. We turn now to the sources of this digital divide.

Money talks?

As the next table shows, money talks in the digital world. Few poor Britons log on – among those in households earning less than £12,000 per year, little more than one in ten people use the internet. The rich are different: almost two-thirds do so. However, the amount of time that those who have access spend on it does not vary significantly by income, being around 3 hours per week for all groups.

Table 1 Internet use, by household income

Household income	% who use the internet	Base
Less than £6,000	14	373
£6,000-11,999	9	427
£12,000-19,999	26	373
£20,000-31,999	43	397
£32,000 or more	61	427

It seems straightforward why money should make a difference. Despite some people being able to use work computers for their own personal needs and the provision of computers in libraries, a home computer remains the most convenient way to gain access to the internet. And buying a computer would be a struggle for those on low incomes. (At the time of writing the computer and auxiliaries costs at least £500). A government initiative to provide households in poorer areas with reconditioned machines is still in its pilot phase. Yet money is not the only thing that matters. Education also has a marked effect – over and above what a person earns.

One of the best single predictors of internet use is having a university degree, as seen in the next table. Almost three-quarters of university graduates log on. At the other extreme, less than one in ten of those with no formal qualifications (who after all make up just under one-third of the population) use the internet.

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Table 2 Internet use, by highest educational qualification

Highest educational qualification	% who use the internet	Base
Degree	72	300
Higher education	46	328
A level	49	234
O level	30	439
CSE or equivalent	21	303
No qualifications	9	740

Of course, tables 1 and 2 might be simply telling the same story: those with higher income tend to be also more likely to have higher qualifications. But the next table demonstrates that income and education, although interrelated, have separate effects. If you earn less than £15,000 per year, you are five times more likely to use the internet if you have a degree than if you have no qualifications. But you are more than twice as likely again to use it if you have a degree *and* earn over £15,000.

Table 3 Internet access, by educational qualification and household income

% who use the internet	Highest educational qualification		
	Degree/HE	Intermediate	No qualifications
Household income			
£14,999 or under	29	18	6
Base	104	366	475
£15,000 or more	65	41	19
Base	464	466	151

We can take this analysis further by using multivariate techniques which allow us to take a number of different factors into account at the same time. The full details are shown in the appendix to this chapter (see models A and B). We find that income and education retain their separate importance for internet access when other related factors such as age are taken into account, with education perhaps having the slightly stronger effect. Over and above income and education, employers and managers are also more likely to have access to the internet than junior non-manual and manual workers.

In line with the earlier finding, income is not related to the number of hours spent on the internet. Education, however, is. Those with the highest educational qualifications spend the longest on the internet (outside their job), once age and other factors have been taken into account.

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Young men glued to their computers?

The common stereotype of an internet user is often a young man, locked away in his bedroom, preferring the internet chat room to real people. It is clear from the data that men are bigger users of the world-wide web: two-fifths of men use it compared with less than a third of women. The men who use it also spend an average of 3.5 hours a week logged on – a full hour more than women. These sex differences remain when other factors (such as income and education) are taken into account (see models A and B in the appendix to this chapter).

Table 4 Internet use, by sex

	% who use the internet	<i>Base</i>
Men	40	981
Women	28	1312

Again, the stereotype of the young as the internet users has some validity. As seen in the next table, almost three in five of the 18 to 24 age group use the internet compared with less than one in 20 of the over 65s (despite the alternative stereotype of the e-granny in the library). Among those who do use the internet, the very youngest also spend more time logged on – an average of 4.1 hours, which is twice as long on average as pensioners do. The digital divide between pensioners and the rest is, in fact, a gulf. These differences persist even when other factors are taken into account (see models A and B in the appendix to this chapter).

Table 5 Internet use, by age

Age	% who use the internet	<i>Base</i>
18-24	58	176
25-34	51	410
35-44	40	465
45-54	36	339
55-59	23	161
60-64	19	198
65+	5	538

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A north/south divide?

Web use is not spread evenly across the country. In London and the South East, around two-fifths of the population have access to the internet, but this falls to less than one-fifth in the north of England. In part, this is, of course, to do with the income and education effects we saw earlier, but the pattern persists even when these are taken into account (see models A and B in the appendix to this chapter), and people in Scotland and the north of England remain significantly less likely to have access to the internet than, for example, those in the South East. Regional variations in internet use were, in fact, highlighted as a matter of concern in the July 2000 monthly joint report from the Government's e-Envoy and e-Minister to the Prime Minister (Hewitt and Pinder, 2000).

Table 6 Internet use, by region

Region	% who use the internet	Base
Greater London	42	221
South East (excluding London)	40	427
North West	36	231
South West	35	198
Scotland	30	220
East Midlands	31	199
East Anglia	30	100
Wales	30	145
Yorkshire and Humberside	29	233
West Midlands	27	175
Northern	18	144

In-work and on-line?

Some politicians appear to believe that there might be a connection between job-hunting and web access. This has in part motivated initiatives where poorer households are being given computers. However, as the next table shows the digital divide is, if anything, smaller on this front than on others. True, those in full-time education are by far and away the biggest users of the internet and those who are not in the labour force at all (dominated by the retired) are much less likely to use it. But the difference between the third of the unemployed who use the internet and the just over two-fifths of the employed who do so hardly amounts to a gulf. A further multivariate analysis (not reported in detail in this chapter) found that this difference between the unemployed and those in work is fully accounted for by their difference in educational qualifications and income. Even if we look for a relationship with past experiences of unemployment (having been out of work at least once in the previous five years), there is no

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reliable pattern. Nor is there any clear difference between the self-employed and employees; 43 and 44 per cent respectively use the internet.

Table 7 Internet use, by labour force status

Labour force status	% who use the internet	Base
Education	80	52
Employed	44	1172
Unemployed	31	95
Out of the labour force	13	958

The haves and the have-nots

There is no doubt that there is a digital divide in Britain. On one level the reasons for this are obvious (and arguably remediable): you need money and you need skills to use the internet. The stereotype of internet users being young and male has some validity. Variations between regions appear to exist independently of education and income levels. Custom, habit and confidence with new technology probably provide the explanation why older people are less likely to use the internet. But – looking to the future – the fact that the young are so much more likely to use the internet suggests that the situation will change over time. It is, of course, possible that the young of today will stop using the internet as they grow older. But it is much more likely that, as computers fall in price and those who have grown up with the internet replace older generations, the new technology becomes the norm. This is a slow process, however. In the meanwhile, it would be unwise to assume that shopping, or voting, or even survey research on the web, will reach its full potential until it can reach a larger proportion of the population.

Social capital, citizens and internet use

As we have seen, the stereotypical picture of a young male internet user has some truth to it. But the stereotype often goes further than that to picture a young male loner, cooped up with his computer, preferring internet chat rooms to real people. If that is true, it may have wider implications. A commonly discussed idea is that computers and the internet may be creating a world of worse citizens and worse societies – of humans who are more interested in themselves and their screens than in taking part in group activities.

The decline of social capital in the United States, as charted in Robert Putnam's *Bowling Alone* (2001) and discussed in the chapter by Johnston and Jowell in this volume, is linked to numerous factors, not least the rise of television. In fact, Putnam asserts that no other factor can explain declining

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civic engagement better than people's increasing reliance on television as their sole form of entertainment. Its private and individualised nature, the relative lack of skill or effort required to watch it, and even the very nature of what people watch, are all indicted. It is no surprise then that questions are being raised about whether the internet could exert these same negative forces. Can our data shed any light on whether social relations, and as a result social capital, are under threat from the world-wide web?

A key determinant of social capital is thought to be trust in other people. But we find that internet users are actually *more* trusting than non-users, implying that they have *more* social capital. Half of our internet users (52 per cent) say that, generally speaking, "most people can be trusted" (rather than "you can't be too careful in dealing with people"). The figure for those who do not use the internet is two-fifths (42 per cent). However, once other factors like age and education are taken into account in a multivariate analysis, there is in fact no difference between internet and non-internet users (see model C in the appendix to this chapter). At any rate, the internet does not seem to have caused its users to become *less* trusting of other people.

As discussed in more detail in the chapter by Johnston and Jowell, membership of social and voluntary organisations are viewed by Robert Putnam as key generators of social capital. Again, those who log onto the internet are, in fact, *more* likely to be members of voluntary organisations than those who do not. Nearly a third (30 per cent) of internet users say they are members of a local community group, whereas just a quarter (23 per cent) of non-users are. This relationship persists also when other factors are taken into account (see model D in the appendix to this chapter). Indeed, given the use that such organisations often make of the internet to advertise their activities, membership may well be driving internet use.

Table 8 Internet use, by church attendance

	Internet users	Non-internet users
Frequency of church attendance	%	%
Weekly	11	12
At least once a fortnight	3	2
At least monthly	8	6
Twice a year or less	21	18
Never/No religion	56	61
Base	684	1595

(Note the elderly are more likely to attend church and less likely to use the internet. When we examine internet use amongst people of a similar age, internet use is more prevalent amongst regular church goers. See model E in the appendix.)

It is known that in Britain there is a continuing and strong secular decline in church attendance (see, for example, De Graaf and Need, 2000). But it does not

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appear that the internet is a rival to organised religion. In fact, it appears to be complementary to churchgoing. As the previous table shows, a larger proportion of internet users go to church than non-users, even though internet users tend to be young and churchgoing is greater among the old. Again, this relationship persists when other factors are taken into account (see model E of the appendix to this chapter). To the best of our knowledge, this is the first time that a relationship has been shown to exist between internet use and churchgoing in Britain.

Some commentators worry that computers drive out people's human contact. We can explore this by looking at who people said they would turn to for support if they were feeling a bit down or depressed and wanted to talk to someone about it – a friend, a relative, someone else, or no one.

Contrary to the picture of the internet user as a loner, they are no more likely to say they have no one to turn to than non-users – 7 per cent of internet users say this, compared with 8 per cent of non-internet users. In fact, internet users rely more on friends and less on relatives than non-users, but this may be partly because of their age profile. In further multivariate analysis (not reported in this chapter) we found that this picture persisted once other factors were taken into account. Hence, far from being an isolating force, the evidence suggests that internet use complements – as opposed to displaces – wider social activities and friendships.

Perhaps time spent on the internet is simply replacing time previously spent on other solitary activities such as television watching or reading? We do find some evidence of this. The third of the British population who log onto the web watch less television. Per day, internet users watch an average of 2.4 hours compared to 3.5 hours for non-users. Interestingly, users and non-users of the internet have identical patterns when it comes to reading – both groups read for an average of 3.9 hours per week. Once we take other factors (such as age, education and income) into account, we confirm the finding that internet users watch less television and we find that they actually read *more* books (see models F and G in the appendix to this chapter).

Since people who use the internet engage in above-average levels of civic activity, it would certainly be wrong to view internet users as anti-social loners. Putnam acknowledges that the internet cannot be held responsible for the start of the decline in social capital: “By the time that the internet reached ten per cent of American adults in 1996, the nationwide decline in social connectedness and civic engagement had been under way for at least a quarter of a century” (Putnam, 2001: 170). Our findings suggest that the internet is not contributing to its continuing decline either.

Conclusions

One-third of British people use the internet other than for their work. But there is a wide digital divide between the haves and the have-nots. We find that internet users are younger, more highly educated, and richer than non-users.

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If you have a university degree, you are eight times more likely to use the internet than somebody without any educational qualifications. If you earn £32,000 pounds a year or more, you are five times more likely to log on than someone on £10,000 pounds a year. Men use the world-wide web more than women; there is a 'gender' digital divide. Age has an enormous effect. Among people aged 65 or over, only one in twenty ever use the internet. Among adults who are under 25, well over half do. There are also regional differences in web use. The north of England has the lowest internet access while the South East and London come at the top. But holding other influences constant, there is no detectable digital divide between people with jobs and the unemployed. All in all, although internet use may well be set to rise, it is far from universal.

We also find something surprising. Contrary to what many believe, internet users are much more likely to take part in social activity and be good citizens. They attend church more, join voluntary organisations more, are more likely to have friends whom they can rely on in times of trouble, read more books, are not less trusting of other people, and watch fewer hours of television. The image of the world-wide web user as an anti-social loner is simply wrong: internet use and 'social capital' seem to be complementary.

Note

1. Our figures provide a slight update on those in Office of National Statistics (2000).

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Appendix

The regression tables in this appendix show coefficients and their significance. Positive coefficients indicate a positive correlation with the dependent variable. Negative coefficients indicate a negative correlation with the dependent variable. Internet use refers to personal internet use throughout.

Significance is shown as follows:

- ** Significant at the 1 per cent level
- * Significant at the 5 per cent level

The following independent variables are used in some or all of the regressions:

Variable	Categories
Household income	Less than £6,000
	£6,000-£11,999
	£12,000-19,999
	£20,000-31,999
	reference: £32,000+
Educational qualification	Degree
	Higher education below degree
	A level
	O level
	CSE
	Foreign
reference: No qualifications	
Labour force status	In full-time education
	Unemployed
	Out of the labour force
reference: In employment	
Socio-economic group	Professional
	Employers/managers
	Intermediate non-manual
	Skilled manual
	Semi-skilled manual
	Unskilled manual
	reference: Junior non-manual
Age	18-24
	25-34
	45-54
	55-59
	60-64
	65+
	reference: 35-44
Sex	Male
	reference: Female

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Independent variables continued

Ethnic origin		Non-white
	reference:	White
Housing tenure		Social renter
		Private renter
	reference:	Owner-occupier
Region		Scotland
		Northern
		North West
		Yorkshire and Humberside
		West Midlands
		East Midlands
		East Anglia
		South West
		Greater London
		Wales
	reference:	South East (excluding London)
Household size		continuous
Internet access		Yes
	reference:	No

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Internet access and hours per week by a range of independent variables
(model A: Logit; model B: Ordinary Least Squares)

	Model A Yes / no	Model B Hours per week
Less than £6,000	-0.82 **	-0.32
£6,000-11,999	-1.25 **	-0.43
£12,000-19,999	-0.60 **	-0.34
£20,000-31,999	-0.32	-0.05
Degree	1.80 **	1.09 **
Higher education	1.09 **	0.71 *
A level	0.92 **	0.31
O level	0.45 *	-0.04
CSE	0.25	-0.23
Foreign qualification	-0.49	-0.65 **
Professional	0.53	-0.48
Employers/managers	0.45 *	-0.35
Intermediate non-manual	0.14	-0.61 *
Skilled manual	-0.31	-0.44
Semi-skilled manual	-0.39	-0.59 **
Unskilled manual	-0.47	-0.75 **
Age: 18-24	0.81 **	0.89 **
Age: 25-34	0.42 *	0.43
Age: 45-54	-0.10	-0.33
Age: 55-59	-0.63 *	-0.76 **
Age: 60-64	-0.89 **	-0.76 **
Age: 65+	-2.00 **	-0.79 **
Male	0.51 **	0.63 **
Non-white	-0.05	0.03
Social renter	-0.37	-0.03
Private renter	0.39	0.04
Scotland	-0.53 *	-0.31
Northern	-0.97 **	-0.19
North West	-0.12	-0.10
Yorks and Humberside	-0.29	-0.12
West Midlands	-0.44	-0.47 *
East Midlands	-0.29	-0.28
East Anglia	-0.05	0.01
South West	-0.11	-0.03
Greater London	-0.09	-0.13
Wales	-0.28	-0.17
Household size	0.01	-0.04
Adjusted R ²		0.10
Base	2220	2216

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Attitudes to social trust, membership of voluntary organisations and church attendance by internet access with control variables
(models C and D: Logit; model E: Ordered Logit)

	Model C	Model D	Model E
	Social trust	Membership	Church attend
Internet access	0.03	0.51 **	0.45 **
Less than £6,000	-0.64 **	-0.52	0.37
£6,000-11,999	-0.35	-0.34	0.01
£12,000-19,999	-0.24	-0.24	0.17
£20,000-31,999	-0.12	-0.18	0.34 *
Degree	1.11 **	1.13 **	1.04 **
Higher education	0.83 **	0.72 **	0.55 **
A level	0.69 **	0.94 **	0.75 **
O level	0.37 *	0.70 **	0.41 **
CSE	0.07	0.11	-0.12
Foreign	0.47	1.11 **	1.60 **
Education	0.56	0.48	0.32
Unemployed	0.09	-0.39	-0.09
Out of the labour force	0.15	0.54 **	0.42 **
Age: 18-24	-0.62 **	-1.11 **	-0.93 **
Age: 25-34	-0.19	-0.30	-0.54 **
Age: 45-54	0.07	0.76 **	0.50 **
Age: 55-59	0.26	1.22 **	0.84 **
Age: 60-64	0.31	0.83 **	0.82 **
Age: 65+	0.35	0.99 **	0.97 **
Male	0.39 **	-0.18	-0.70 **
Non-white	-0.61 **	-0.49	1.54 **
Social renter	-0.38 **	-0.44 *	-0.13
Private renter	0.13	-0.58 *	-0.10
Scotland	0.43 *	-0.65 **	0.62 **
Northern	-0.13	-0.45	-0.24
North West	-0.26	0.30	0.52 **
Yorks and Humberside	-0.28	-0.15	0.28
West Midlands	-0.24	0.09	0.37 *
East Midlands	-0.34	0.11	0.27
East Anglia	0.05	-0.12	-0.02
South West	-0.04	-0.42	0.03
Greater London	-0.16	0.61 **	0.42 *
Wales	-0.14	-0.63 *	0.34
Household size	-0.00	0.10	0.18 **
<i>Base</i>	2258	2276	2259

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Time spent watching TV and time spent reading books by internet access with control variables
(Ordinary Least Square regressions)

	Model F TV hours	Model G Book hours
Internet access	-0.25 *	0.86 **
Less than £6,000	0.66 *	0.21
£6,000-11,999	0.62 **	-0.04
£12,000-19,999	0.15	0.28
£20,000-31,999	0.24	0.12
Degree	-1.12 **	0.88
Higher education	-0.68 **	0.29
A level	-0.57 **	0.79
O level	-0.38 *	0.38
CSE	-0.21	0.43
Foreign	-0.70 *	2.54
Education	-0.35	0.86
Unemployed	1.30 **	-0.20
Out of the labour force	0.63 **	0.69
Age: 18-24	0.38	-0.66
Age: 25-34	-0.01	0.25
Age: 45-54	-0.13	0.51
Age: 55-59	-0.15	0.94
Age: 60-64	0.08	1.90 **
Age: 65+	0.47	1.89 **
Male	-0.02	-1.42 **
Non-white	0.23	-0.36
Social renter	0.17	-0.02
Private renter	0.04	0.49
Scotland	0.29	0.80
Northern	0.31	-0.19
North West	0.07	-0.30
Yorks and Humberside	0.18	0.42
West Midlands	0.02	0.40
East Midlands	0.17	-0.11
East Anglia	-0.24	-0.89
South West	0.14	-0.44
Greater London	0.01	0.13
Wales	0.16	0.75
Household size	0.06	-0.27 *
Adjusted R ²	0.16	0.04
Base	2274	2277