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**Article (Published version)
(Refereed)**

Original citation:

Helsper, Ellen J. and Reisdorf, Bianca C. (2013) *A quantitative examination of explanations for reasons for internet nonuse*. [Cyberpsychology, behavior, and social networking](#), 16 (2). pp. 94-99.

DOI: [10.1089/cyber.2012.0257](https://doi.org/10.1089/cyber.2012.0257)

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Available in LSE Research Online: April 2013

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A Quantitative Examination of Explanations for Reasons for Internet Nonuse

Ellen J. Helsper, PhD¹ and Bianca C. Reisdorf, PhD²

Abstract

This article investigates patterns of reasons for digital disengagement of British adults. It adds a psychological dimension to research that is mostly sociological in nature in trying to separate out explanations for disengaging from the Internet by choice or by forced exclusion. The analysis of a nationally representative survey shows differences between the number of reasons and the most important reasons among different sociodemographic groups, but also among individuals with different psychological profiles. The findings suggest that ex- and nonusers do not have one simple reason for nonuse, but a multifaceted range of reasons, which often represent disadvantages at several levels. The range of often mentioned reasons, moreover, shows that motivations for disengagement cannot be measured by means of the most important reason, but that all reasons have to be taken into account and looked at concertedly.

Introduction

RESEARCH INTO DIGITAL EXCLUSION or divides is no longer a new area of research. There is a continuing concern in academic and policy circles^{1,2} that certain groups are being left behind in societies, where Information and Communication Technologies (ICTs) have become so common as to be rendered almost invisible for the majority. The reason for this concern is that it seems that the same people who are disadvantaged in traditional areas of economic, social, and personal wellbeing tend to be the ones least likely to be engaged with ICTs.^{3–5} Therefore, instead of ICT diffusion reducing existing inequalities they might reinforce or even amplify these patterns by adding another area in which opportunities and experience are denied to those most in need of support.^{6,7} While access to ICTs is now widespread in many Western European countries and we can no longer speak of real access divides between sociodemographic groups, skills and usage patterns remain unequally distributed.^{8–11} Thus, the highest priority in most of this research is to understand what the most important predictors of digital disengagement are. In this context, debates are taking place about whether forced exclusion or deliberate choice is the best way of discussing these phenomena.^{12–14}

This article aims to disentangle psychological, individual explanations from sociological, demographic explanations for disengagement.

Current research into digital exclusion is largely based on correlating certain sociodemographic indicators with ICT access, skills, and use. In this type of research, users and nonusers are compared in terms of their sociodemographic characteristics. Based on this, conclusions are drawn about which factors associated with these characteristics (e.g., poverty, socialization) are the reasons for exclusion. Over the last few years, more complex analyses of both quantitative and qualitative data show that there is rarely a straightforward relationship with one indicator trumping all others in relation to exclusion. Recent research suggests that the strongest predictors of access, skills, and usage are gender, age, and education.^{9,10,14–16}

The sociological focus of most large-scale, generalizable digital exclusion research steers researchers away from looking at individual motivations and the psychology of those who are currently not online. By focusing on measuring use or nonuse and relating it to sociodemographic factors, this type of research often forgets to ask those who do not use ICTs directly *why* they do not engage. When questions about reasons for use and nonuse are included in surveys, they are often badly operationalized and mostly aimed at discovering why users engage and not why nonusers disengage. Research that looks specifically at motivations of nonusers or those who are less engaged with technologies is often qualitative in nature (e.g.,^{17,18}) and can therefore not be generalized easily, nor does it allow for a testing of the most important predictors for motivation.

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There are two main reasons why quantitative research into digital disengagement often does not involve asking people directly why they do not engage. These can be briefly summarized as follows:

- (a) Asking people why they do something is very difficult; people are assumed not to really know their own mind and asking people why they do *not* do something is, hence, even more difficult.^{19,20}
- (b) Individuals give apparently contradictory responses in quantitative research.

For example, Dutton and Helsper²¹ found that interest and cost are both important reasons, suggesting that nonuse is based on a combination of choice and exclusion factors. Certain groups indicate many reasons for disengagement; while others indicate only a few without a clear pattern (see also¹³).

The above issues are partly measurement related and partly based in a limited understanding of why people give conflicting answers. To engage with this debate about measurement and explanations of reasons for nonuse, this article addresses the following questions:

1. Can distinct reasons for nonuse be identified for a specific group or do reasons coincide in more complex patterns?
2. Are the different reasons for nonuse explained satisfactorily by sociocultural background or are psychological explanations needed?

Materials and Methods

The 2011 Oxford Internet Surveys used a face-to-face representative survey of 2,057 people aged 14 and older in Britain. Sampling was done through a random stratified sample of individuals in households and weighted to census data. There were 93 ex-users (currently do not use the Internet, but used it before) and 466 nonusers (never used the Internet) in the final sample, a total of 559 individuals who do not currently use the Internet. The sociodemographic measures used for the analyses were age ($M=59.8$; $SD=19.1$), gender (45.7 percent men; 54.3 percent women), and education ($M=1.2$; $SD=0.60$; scale=1–3), psychological measures included loneliness ($\alpha=0.92$; $M=0.17$; $SD=0.37$; scale 1–5), shyness ($\alpha=0.69$; $M=0.73$; $SD=0.45$; scale 1–5), and locus of control ($r=0.42$; $M=0.86$; $SD=0.35$; scale 1–5).^{*} From the continuous scale variables, dichotomous variables were constructed for the percentage comparisons with cutoff points below and over 2.99 to create the variables not lonely/lonely, not shy/shy, and internal/external locus of control.

Reasons for disengagement were measured by asking nonusers what their reasons were for disengagement. The survey measures four key categories of reasons: lack of access, skills, and interest, and high costs. In addition, it contains measures of reasons related to concerns about safety and personal lifestyle, which will not be used in this analysis, since they were both mentioned by only one percent of nonusers as the most important reason for nonuse. A first question asked about a person's *reasons* for (current) nonuse

(multiple responses); a second question inquired about the *most important reason* for nonuse (single response). This combination of multiple-choice and single response questions proved fruitful as will be shown below. Dichotomous variables with the scores 1 and 0 were created from these items: If none of the reasons within a class was indicated as a reason they received a score of 0 for that class. Ex-users were asked why they stopped using the Internet and the items were combined as for nonusers. All analyses were conducted in PASW Statistics version 20.

Results

The reason for Internet nonuse mentioned by the greatest number of non- and ex-users was a lack of interest, followed by a lack of access, lack of skills, and concerns about costs (see Table 1).

The reason that was indicated most frequently as the most important reason for Internet nonuse was a lack of interest, mentioned by half (50 percent) of the respondents. A lack of access, costs, and skills was mentioned by roughly a tenth of the respondents as the most important reason.

Ex- and nonusers had different reasons for not using the Internet. Ex-users were most likely to point to lack of access and high cost as reasons for having stopped using the Internet. Nonusers were most likely to point to a lack of interest and skills. Thus, it appears that nonusers were making a choice to disengage with the Internet (i.e., they lack interest), whereas for ex-users forced exclusion factors (access and costs) seemed more prominent. On average, nonusers indicated a wider variety of reasons for their nonuse than ex-users. This pattern is similar, but more clearly demarcated when examining the most important reason for nonuse.

A comparison of reasons between sociodemographic groups and psychological profiles using the chi-square statistic shows that all reasons for nonuse were significantly related to all examined sociodemographic indicators, but not to all psychological indicators.

Gender: Reasons for nonuse did not vary greatly between men and women. For all reasons mentioned, the only significant difference between men and women was found for skills. Women were more likely than men to indicate that a lack of skills was a reason for disengagement. Both women and men mentioned lack of interest as the *most important* reason for not engaging with the Internet, although men mentioned it significantly more than women.

Age: The youngest and oldest age groups were more likely to indicate that access was a reason for nonuse. The youngest age group was also more likely to indicate that costs were an issue. The oldest age group was more likely to indicate lack of interest and skills as reasons for nonuse than the other age groups. For the *most important* reason, we found significant differences for access, interest, and costs in the same direction as for all reasons mentioned, but no significant age differences for skills as the most important reason.

Education: The only reason that was mentioned equally, and frequently, by respondents with different levels of education was a lack of interest. High costs and lack of skills were more likely to be an issue for those with basic education than those with higher levels of education. A lack of access and interest were the reasons most often mentioned by those with university education. Those with basic education mentioned

^{*}For a detailed description of the items see www.ox.ac.uk/microsites/oxis

TABLE 1. REASONS AND MOST IMPORTANT REASONS FOR DISENGAGEMENT

	Access		Interest		Cost		Skill	
	a	b	a	b	a	b	a	b
Use								
Ex-user	65%	26%**	40%**	23%**	63%*	37%**	22%**	2%*
Nonuser	67%	6%**	85%**	63%**	48%*	7%**	71%**	8%*
Gender								
Male	67%	11%	77%	61%*	51%	9%	57%*	6%
Female	67%	8%	78%	53%*	50%	14%	67%*	8%
Age								
14–25	92%**	35%**	38%**	19%**	75%**	42%**	13%**	0%
25–44	67%**	13%**	63%**	48%**	66%**	26%**	42%**	6%
45–64	58%**	9%**	77%**	59%**	51%**	12%**	64%**	10%
65+	70%**	5%**	87%**	63%**	42%**	3%**	75%**	8%
Education								
Basic	69%	8%*	79%	57%*	53%*	13%	65%	8%
Further	48%	4%*	87%	71%*	36%*	8%	57%	4%
Higher	59%	19%*	68%	41%*	33%*	9%	48%	7%
Loneliness								
Lonely	75%	14%	68%*	44%*	58%	14%	60%	7%
Not lonely	65%	8%	80%*	59%*	49%	12%	63%	8%
Shyness								
Shy	71%	4%*	83%	60%	51%	10%	68%	7%
Not shy	65%	11%*	76%	55%	50%	13%	60%	8%
Locus of Control								
Internal	67%	9%	78%	58%	52%	11%	64%	8%
External	66%	13%	73%	47%	43%	18%	54%	6%
All	67%	9%	78%	57%	50%	12%	63%	7%

Base: Ex- and Nonusers $N=559$.

* χ^2 differences between categories significant at $p < 0.05$.

** χ^2 differences between categories significant at $p < 0.01$.

a, A reason for disengagement; b, most important reason for disengagement.

the most reasons, followed by those with higher, and then by those with further education. Interestingly, there were no significant differences to be found between educational levels for the *most important* reason for nonuse. All education levels indicated a lack of interest as the most important reason.

Of the three psychological characteristics measured in this study, loneliness, shyness, and locus of control, only loneliness and shyness were significantly related to reasons of nonuse. Those who felt lonely were significantly less likely to indicate lack of interest as a reason for nonuse. This result was replicated for the most important reason. Those who were lonely mentioned a lack of access more often as a reason for disengagement than a lack of interest. Those who indicated they were of a shy nature were significantly less likely to name lack of access as the most important reason for Internet nonuse.

Explaining reasons for nonuse

To understand to what extent reasons for nonuse were singular rather than multiple (i.e., question 1), a linear regression was conducted to explain the *number of reasons* that people gave when they were asked to indicate which reasons they had for not using the Internet. Separately, logistic regressions were conducted to understand which factors explain differences in the *most important* reason given for nonuse

and to disentangle the independent effects of psychological factors from sociodemographic factors (i.e., question 2). The number of reasons indicates how many different barriers there are to engagement, while the most important reason might indicate what the most effective area of intervention is to tackle disengagement. Gender, age, education, loneliness, shyness, locus of control, and use history (whether they had used the Internet before) were used to explain both breadth and most important reasons for disengagement.

TABLE 2. LINEAR REGRESSION OF THE BREADTH (NUMBER) OF REASONS FOR NONUSE

	b	SE	β	t
(Constant)	-0.61	0.89		-0.68
Use history	1.11**	0.24	0.21	4.65
Gender	0.28	0.17	0.07	1.62
Age	0.02**	0.01	0.15	3.39
Education	-0.15	0.15	-0.04	-1.00
Loneliness	-0.01	0.10	0.01	0.12
Shyness	-0.19	0.10	-0.08	-1.83
Locus of control	0.21*	0.11	0.09	1.96

Base: Ex- and Nonusers $N=559$.

*Coefficient significant at $p < 0.05$.

**Coefficient significant at $p < 0.01$.

TABLE 3. LOG-LINEAR REGRESSION OF MOST IMPORTANT REASONS FOR NONUSE

	<i>Access</i>		<i>Interest</i>		<i>Costs</i>		<i>Skill</i>	
	<i>b</i>	<i>exp(b)</i>	<i>b</i>	<i>exp(b)</i>	<i>b</i>	<i>exp(b)</i>	<i>b</i>	<i>exp(b)</i>
Use-history	1.52	4.55**	-1.68	0.19**	1.63	5.12**	-1.41	0.245
Age	-0.03	0.97*	0.01	1.01*	-0.05	0.95**	0.01	1.01
Education								
Basic	-1.19	0.30	0.65	1.91	0.67	1.96	0.01	1.01
Further	-2.27	0.10	1.88	6.54*	-0.60	0.55	-0.83	0.44
Gender(Men)	0.64	1.90	0.39	1.48*	-0.93	0.40**	-0.35	0.70
Loneliness (High)	0.99	2.69*	-0.47	0.62	-0.35	0.70	-0.17	0.85
Shy (High)	-1.05	0.35*	0.14	1.15	-0.19	0.83	-0.06	0.94
Locus of control (Internal)	-0.05	0.96	0.40	1.49	-0.18	0.83	0.08	1.08
Constant	-0.61	0.54	-1.33	0.26	0.14	1.15	-2.53	0.08

Base: Ex- and Nonusers $N=559$.

*Coefficient significant at $p < 0.05$.

**Coefficient significant at $p < 0.01$.

Table 2 shows that once all seven explanatory variables were taken into account, only use history and locus of control were significant in explaining the number of reasons for nonuse. Nonusers gave a wider variety of reasons for their current disengagement than ex-users. Older users gave significantly more reasons for disengaging, although effect sizes were small. Individuals with a high internal locus of control gave a significantly smaller number of reasons than those with a high external locus of control.

Table 3 shows that in explaining the most important reasons for nonuse, use history was again important. It was significantly related to all reasons except for lack of skills. Ex-users were more likely to indicate access and cost as the most important reason, while disinterest was more likely to be indicated by nonusers as the most important reason.

Gender made a significant difference for interest as a reason for nonuse. Men were more likely than women to indicate a lack of access as the most important reason for disengagement, but were less likely to indicate that costs were an issue.

Age: Older people were less likely to indicate access and cost as the most important reason for nonuse and more likely to indicate lack of interest as the most important reason.

Education made a significant difference only for indicating interest as a reason for disengagement. Those with further education were more likely to indicate that lack of interest was an issue than those in higher education.

Psychological factors only made a difference for access as the most important reason for Internet nonuse. Individuals who felt lonely and those who were outgoing were significantly more likely to state that lack of access was the reason for their nonuse. Locus of control did not make any significant difference.

Discussion

This article set out to examine whether reasons for digital exclusion follow simple or complex patterns and what the factors are that could explain reasons for disengagement.

The findings show that people did not have one simple reason for Internet nonuse. When ex- and nonusers were asked what the most important reason was for their nonuse, the general pattern seemed to point to a clear distinction be-

tween groups that disengaged due to external factors, such as access (i.e., forced exclusion), and groups that disengaged because of intrinsic motivational issues, such as interest (i.e., choice). The groups that were more likely to indicate cost also indicated lack of access as the most important reason for nonuse, suggesting that ex-users and younger people are more likely to suffer forced digital exclusion. In the same type of analyses, those who said that lack of interest was the most important reason also indicated that they lacked the skills to engage, suggesting that these groups (nonusers and the elderly) were disengaged due to factors more commonly associated with choice. This supports previous work (Selwyn^{14,22}; Van Dijk³; Warschauer¹¹) arguing that for the majority of Internet nonusers, digital exclusion goes beyond a lack of access and that a wider range of indicators should be taken into consideration.

The results differed when asking for all the reasons an individual had and asking what the most important reason was for disengagement. This difference is problematic, because designs of interventions to overcome specific group-based digital exclusion would differ depending on the measurements used. For ex-users and younger nonusers in one scenario, interventions would focus on lowering costs, while under the other, more complex, scenario they would have to include at the very least access and interest aspects of exclusion. Based on complex measures, which allow for multiple reasons of exclusion, more targeted interventions should be designed for some groups (i.e., further education individuals, focused on increasing interest), while for others (e.g., with basic education) a broader spectrum of barriers needs to be tackled. This expands our understanding of Eynon and Helsper's¹³ work, which indicated that disentangling forced exclusion from choice is not as straightforward as it appears.

Thus, survey measures should not assume that people are either motivated by financial imperatives (cost) or by psychological imperatives (interest), but that these can be coexisting motivations. Far from being contradictory, these findings suggest that disengagement is often an indicator of disadvantage at several levels and that some groups in society are less likely to be able to jump the range barriers to engagement with ICTs because they face various obstacles at

the same time. Multivariate analyses suggested that previous experience with the Internet, age, and locus of control were the strongest predictors for the range of reasons for disengagement.

Following Zaller and Feldman's²⁰ study, it does seem possible to construct a robust quantitative enquiry into people's reasons for not engaging in certain behaviors, in this case Internet use, but a multipronged approach is needed and a theoretical framework, such as that of choice versus forced inclusion, needs to be in place that guides the construction of these items.

Multivariate analyses of explanations for specific reasons for nonuse, the range of sociodemographic factors, and psychological factors were related to reasons for disengagement. In a reversal of what might have been expected, sociodemographic factors were stronger predictors of reasons related to choice (i.e., interest), while psychological factors related more strongly to forced exclusion (i.e., access) as Eynon and Helsper¹³ suggested. These analyses suggest that research into digital inclusion cannot make assumptions about forced exclusion being related to sociodemographic factors and choice to psychological factors. Digital inclusion research needs to incorporate both and cannot deduce from the reasons what types of people are likely to choose exclusion and what types are forced into exclusion. Further research should incorporate more sensitive psychological indicators; perhaps, including personality types. This article had to use the available indicators, which were not ideal.

Conclusions

In answer to the research questions presented at the beginning of this article: Reasons for Internet nonuse are a complex phenomenon whereby one individual can perceive several reasons for exclusion at the same time and no distinct reasons for specific groups can be identified. The answer to our second question is that, while sociodemographic characteristics explain a large part of reasons for Internet nonuse, psychological individual factors, such as shyness and loneliness, should not be ignored in a digital world that is increasingly centered on social interaction. Further research should examine whether these psychological factors mediate or moderate the effect of more traditional measures related to digital exclusion.

Future research should also go beyond looking at reasons for nonuse to examining reasons for limited engagement with ICTs. Several authors^{5,9,11,22} have suggested that digital exclusion should now be seen as situated within the realms of different levels of engagement instead of in different levels and reason for access. It is also important to understand whether the patterns observed here are a recent development or whether stable patterns in relationships between sociodemographic and psychological variables and reasons for disengagement can be observed over the years.

Of course, this article is limited in that it relies on self-reported motivations. Reassuring is that the findings of both measures used in this study, most important reason and reasons mentioned, are consistent with previous qualitative and quantitative work and that they theoretically and conceptually make sense in relation to the sociodemographic categories used for more sociological research. It raises interesting questions

regarding definitions of choice and forced exclusion in relation to digital engagement to be explored in future research.

Author Disclosure Statement

No competing financial interests exist.

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