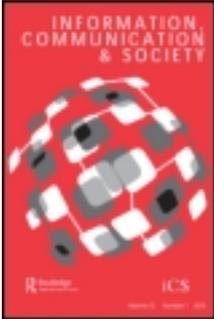


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THE CONTENTIOUS GAP

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Jaron Harambam, Stef Aupers & Dick Houtman

THE CONTENTIOUS GAP

From digital divide to cultural beliefs
about online interactions

With the rise and widespread application of the internet, social scientists rapidly emphasized that some people were better able to gain control over these technologies than others. This so-called digital divide between the haves and the have-nots was seen as a new feature of contemporary inequality – as a reproduction or transformation of existing social disparities. Motivated by these concerns about social inequality, it is argued in this paper, research on the digital divide has been theoretically and empirically blinkered. Even though the focus changed from simplistic questions of having access or not, towards the more informative dimension of usage and skills, the same socio-economic bias was maintained. In this paper, we therefore theorize that appropriating the internet (or not) is less related to socio-economic position or usage and skills, and is more culturally informed than theories about a digital divide allow for. To empirically test our assumptions, we used the internet-based community project ‘Telebrink’ as a case study for our quantitative and qualitative research. Based on a survey among Dutch citizens involved in this project (N = 251), we studied the explanations for (not) using these applications by testing hypotheses about the influence of skills and knowledge on the one hand and culture, i.e. moral evaluations of online social life, on the other. Our statistical analyses show that cultural attitudes, i.e. moral beliefs regarding social interaction, are most strongly explaining the appropriation of social internet technologies. Enriched with our qualitative data confirming those results, it is concluded that how people feel and think about this technology in social life is of major importance. In short: culture matters!

Keywords digital divide; online social contact; cultural attitudes; inequality

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1. Introduction

It is a mainstay in the social sciences that the emergence and widespread application of information and communication technologies (ICT) over the past two decades has radically changed the way we live, work and consume (Castells 1996–1998). From the beginning, however, it was argued that some people were better able to gain control over these technologies than others. This so-called *digital divide* between the *haves* and the *have-nots* was generally understood as yet another manifestation of socio-economic inequality – a reproduction or transformation of already existing disparities, favoring the rich and aggrieving the poor (for an overview: Gunkel 2003; Selwyn 2004; Partridge 2007; Hargittai 2008). Including all people in the digital promise quickly became a publicly shared goal of many governments and policies as internet technologies were believed necessary to participate economically, politically and socially in twenty-first-century societies (e.g. MEZ 1994; NTIA 1995, 1999, 2000; Lisbon Treaty 2000; Norris 2001; Selwyn & Facer 2007). Subsequent research – stemming from this social-democratic inclusionist’ agenda and neo-Marxist’ fears of growing disparities between the *information rich* and the *information poor* – was despite its variety, unequivocally directed to materialist socio-economic explanations for this digital exclusion. The prevalent and uncontested underlying assumption was that all people want to be ‘connected’, but that some are simply not able to because of their deprived socio-economic situation.

However, the internet in Western countries is nowadays everywhere and for everyone – the Netherlands currently rank at the top (together with the Scandinavian countries) where 94 percent of the people have internet at home with 85 percent of those having broadband internet access (CBS Statline 2010; Euro-Stat 2010). So of what divide are we talking about? Or, in the words of Sen (1992), an ‘inequality of what?’ (p. 12)? Are people nowadays excluded from the digital domain and can this still unambiguously be understood as the result of their social–economic position? Or can one start to question these prevalent assumptions in academia – especially since more and more empirical anomalies surface? It has for instance been assessed in various studies that many young people with good education do not use the internet fully while others, coming from deprived social backgrounds thrive online (Thurlow *et al.* 2004; Goldfarb & Prince 2008; Qiu 2009; Helsper & Eynon 2010), and also that more and more senior people now find their new partner online (van Dijk 2007; Duimel 2007; Dutton & Di Gennaro 2007). Such studies obviously do not comply with dominant socio-economic and socio-categorical explanations and therefore beg for other, alternative explanations to better understand today’s wide variation in participation and usage of the internet.

In this paper, we therefore question the prevalent idea that socio-economic factors determine whether and how people use the Internet and propose to

include a cultural dimension into the debate. Cultural meaning, Alexander (2003) argues, is not necessarily a shallow derivative of socio-economic positions as many social scientists hold, but can be considered an ‘independent variable’ in its own right (p. 12). Research on the ‘digital divide’, from this perspective, should more seriously consider ‘the relative autonomy [of culture] in shaping actions’ (Alexander 2003). How people integrate technology into their everyday life, i.e. the ‘domestication of technology’ (Silverstone & Hirsch 1992; Frissen 2004), might from this perspective be much more culturally informed than determined by socio-economic position. It may, in other words, be more a matter of cultural opinions, beliefs and tastes than the outcome of structural limitations.

In order to test this theoretical claim, we will use the Dutch internet-based community project ‘Telebrink’ as a case study and analyze the digital disparities by looking at the motivations for and rationales of (not) using its applications. Reasons for (not) engaging with ICT can vary along many different lines, and the dominant digital divide discourse may obscure any cultural explanation of digital variation, explanations which – as the internet turns from an information system into a very social phenomenon – may be much more informative. The research question is, simply put: how is the differentiated internet usage to be explained?

2. The digital divide: different manifestations, similar explanations

2.1 *Digital Divide 1.0: access and socio-economic inequalities*

Early conceptualizations of the digital divide were quite rudimentary: it was about people who had access to the Internet and those who had not, or more popularly phrased: between the *haves* and *have-nots* (Wresch 1996). Ample research was carried out to reveal which people were ‘falling through the net’ (NTIA 1995, 1999) and why. This common binary idea of either having access or not has increasingly become too simplistic: people can have access at very different places (school, work, at home and on the road) and in very different ways, signifying very different meanings of ‘access’. Access to the Internet should therefore be seen as hierarchical rather than oppositional (Toulouse 1997). A second simplistic feature of this first generation of research is the technological determinists’ flaw of simply equating access with use (e.g. Selwyn 2004, p. 349). As a Dutch study showed, for example, only 68% of the people with a computer and internet at home use that frequently (at least once a week) (van Dijk 2007, p. 38). Although these figures are rising, as recent European statistics indicate (Eurostat 2010), merely providing the material necessities to have access apparently does not do the trick. And as most Western countries are getting more and more ‘internet saturated’, what do figures of access alone tell us nowadays about digital inequality?

Explanations for this divide, then, were found along certain socio-economic and demographic lines, relating it to general issues of social injustice and social stratification (for an overview: Gunkel 2003; Selwyn 2004, 2006; Partridge 2007; Hargittai 2008). Categorical factors such as income/socio-economic status, education, age, race (United States) and ethnicity (Europe), gender and geography¹ (for an overview: DiMaggio *et al.* 2004; Yu 2006, pp. 240–241) were supposed to explain why some people were not to be found on the digital highway. Although it was shown that the adoption of the internet followed a so-called S-curve (Rogers 1962), just like the diffusion of any other new technological innovation, and that the lower socio-economic strata were lagging behind in the appropriation of the internet, it is nowadays often recognized that these early conceptions no longer suffice in explaining the variation of internet usage.

2.2 *Digital Divide 2.0: skills and capacities*

Scholars realize more and more that not only *if* and *how* people are connected is crucial in understanding the digital divide, but also *what* they actually do there. Studies thus changed their focus from ‘access’ to the internet towards the more differentiated ‘usage’ of the internet. A wide range of good studies in which this differentiation of use (Katz & Rice 2002; Wellman & Haythornthwaite 2002; Howard & Jones 2004) and non-use (Wyatt *et al.* 2002; Selwyn 2006) were assessed, emerged over the last decade. These studies all build on the assumption that how people actually use all the different facets of the internet tells us a lot more about the way people have integrated the internet in their daily lives and about their social and cultural background (van Dijk 2007, p. 39). More in particular, this variegated usage of the internet is predominantly explained by the knowledge and skills people have (Hargittai 2002, 2005; van Dijk 2005, 2006). This so-called ‘second-level digital divide’ (Hargittai 2002), then, shows that the digital divide is not at all disappearing – as some academics suggested when practically everyone in the western world got access to the internet – but that it has merely changed its face: from possessing the basic necessities to possessing the skills to use them (Mossberger *et al.* 2003; Selwyn 2004; Warschauer 2003).

These skills to operate computer and network hard- and software are supposed to be mostly technical, boiling down to concrete questions like: can people use word processors? Do they know how to edit photos and films? How many different applications are they using? Besides this ‘hardware-related technical proficiency’ (Mossberger *et al.* 2003) or ‘operational skills’ (van Dijk 2005), a certain degree of ‘information literacy’ (Warschauer 2003) is deemed necessary. Interpreting and knowing how to engage with all the different structures (website lay out, workings of hyperlinks, etc.) and images in this multimedia world has become just as important as technical proficiency (Mossberger *et al.* 2003;

Warschauer 2003; Selwyn & Facer 2007). Furthermore, these ‘information skills’ need to be employed in particular ways to become meaningful. Van Deursen and van Dijk (2011) refer to this as ‘strategic skills (the capacities to use information as the means for specific goals and for the general goal of improving one’s position in society)’ (p. 895). In short, knowledge, skills and the way these are applied have become the new parameters for explaining a digital divide.

Even though his approach is much more refined than bluntly looking at the possession of computers and internet access, the notion of social inequality is still held to determine peoples’ engagements with ICT. Age, education, social background and income are, after all, held to be the main predictors of people’s skills and capacities (van Deursen & van Dijk 2011; Hargittai 2002, 2008; Mossberger *et al.* 2003; DiMaggio *et al.* 2004; Selwyn 2004, 2006, 2007; Warschauer 2003; van Dijk 2005, 2006, 2007). Moreover, dominant solutions to this renewed divide have a similar socio-technological bias, and many institutional policies intended to close the digital divide are structured around the idea of familiarizing *have-nots* with these technologies (Selwyn 2004, p. 355). And yet again, the digital divide is understood as a mere temporal stage in the widespread adoption of these technologies – simply because it is assumed that everyone wants to have full ‘access’, but unfortunately cannot reach that goal due to their lack of knowledge and skills.

Following this perspective that higher skills correspond with more positive appreciations of, stronger motivations for and a more profound usage of the internet (van Deursen & van Dijk 2011; Hargittai 2002, 2005, 2008; Mossberger *et al.* 2003; DiMaggio *et al.* 2004; Selwyn 2004, 2006, 2007; Warschauer 2003; van Dijk 2005, 2006, 2007), we may now formulate our first hypothesis:

Hypothesis 1: People with higher computer skills have more positive rationales of using the internet.

2.3 *A matter of culture?*

In various recent studies, interesting anomalies appeared that challenge the dominance of the socio-categorical and class-based perspective on the usage of the internet. It is, for instance, demonstrated that lower class people (low education, low income) are now more online than their higher class counterparts (Goldfarb & Prince 2008), their children concomitantly (Tufekci *et al.* 2008), whereas Qiu (2009) showed how even blue-collar workers in China are nowadays thriving online. But also the assumption that by definition youngsters are ‘digital natives’ (Prensky 2005) – a generation of internet savvies compared with their parents – has become problematic. Bennet and Maton (2010) state for instance that ‘there is significant variation in the ways in which young people use technology [...] there is a diversity of interests, motivations and needs. So while some young people might be regarded as “digital natives”, these are by no means characteristics shared by all young people’ (p. 325). While these

findings are confirmed by other researchers (e.g. Hargittai 2010) and some have created typologies of young internet users (Eynon & Malmberg 2011) to empirically assess this differentiation, other research has also revealed how an increasing number of seniors are moving online (Barker, 2009; Duimel 2007) – how they are participating in online social networks (Ellison *et al.* 2009) and even find new partners through the internet (Dutton *et al.* 2008).

Despite these apparent ‘deviations’ from the digital divide orthodoxy of social inequality, only few scholars have looked beyond these categorical factors when explaining the variations in usage of the internet. It is often still emphasized that even though ‘a plural digital divide [might exist, it] does not mean that inequalities come in equal measure. Socio-economic background still plays an important role’ (Lee 2008, p. 148) and such authors thus keep on stressing digital inequalities’ ‘potential to contribute to social inequality rather than alleviate them’ (Hargittai 2008, p. 943).

But there are some dissenting voices in the debate. Silverstone, for instance, argued that ‘skills in using information and communication technologies were found to be necessary but not sufficient for such participation’ (Silverstone 2005, p. 8) and others have claimed that why people engage the way they do with these technologies, involves many psychological, social and cultural considerations (e.g. Gunkel 2003; Selwyn 2004, 2006; van Dijk 2005). Min (2010), for example, contended in a study on online political behavior that besides the necessary skills, ‘political attitudes, rather than socioeconomic or demographic factors’ play a ‘vital’ role in explaining ‘meaningful use of the internet’ (p. 32). Partridge (2007), finally, showed that ‘attitudes do matter [and] have a significant (indeed the primary!) impact on [people’s] decision on whether to engage with technology and to incorporate it into their information worlds’ (p. 8). However, what these attitudes and cultural considerations look like, and how they exactly influence online behavior remain by and large untouched.

Although we do not wish to deny or completely downplay the necessity of actually having the material requirements and the skills to employ them, and socio-categorical factors may indeed influence those, it can all in all be questioned whether these alone are able to explain the differences in today’s internet use. Particularly, since the internet gradually changed towards a more interactive social platform, often referred to as *Web 2.0*, we agree with Bennet *et al.* (2008) that more research is needed to explore ‘the relationship between technology, access, use and skill, and the attitudinal characteristics and dispositions’ of users (p. 778). The question remains: why do some people post their opinions online or participate in discussions on web forums and others do not? How can it be explained that some people are completely immersed in weaving and maintaining social networks online and others do not? And more fundamentally: can the involvement in these and many other activities on the internet really be explained by (a lack of) technological skills and, ultimately, by a theoretical model based on demographic categorizations and social–economic stratification?

An alternative explanation to understand the divergent internet use is cultural. Technological systems, after all, do not function in isolation but obtain meaning through their usage by people and this ‘domestication of technology’ (Silverstone & Hirsch 1992; Frissen 2004) may be more influenced by cultural ideas – by worldviews, beliefs, lifestyles and taste – than by social–economic factors. In general, the ideas people have about the world and the cultural meanings they share are not necessarily pale reflections of their social–economic position; they provide important motivations for social action in and of themselves (e.g. Smith 1998; Alexander 2003). From this perspective, then, online participation may be a choice motivated by the different cultural meanings people attribute to the medium. And since the internet increasingly facilitates human interaction and becomes the huge social platform it is today, we particularly theorize that such choices are related to the moral–cultural beliefs people have about social contact – to their fears and fascinations concerning computer-mediated communication, to their moral concerns about face-to-face contact and virtual contact and evaluations of online sociality versus offline sociality. After all, there are many people who prefer face-to-face contact over online contact or, more than that, consider the latter a sign of social deterioration – of being ‘alone together’ for instance (Turkle 2011). And vice versa, some consider online contact an excellent way for togetherness and self-expression (Turkle 2011). Such moral considerations about the social dimension of the internet are obviously cultural – they are manifestations of beliefs, lifestyles and taste. Obviously, we do not argue that these moral considerations are unaffected by structural and material factors; rather, we argue that ‘only if cultural structures are understood in their full complexity and nuance can [their] true power and persistence [. . .] be realistically understood’ (Alexander 2003, p. 7). This study is a rather modest, but conscientious commencement to such a project in research on the ‘digital divide’.

We theorize, therefore, that cultural meaning; particularly, moral accounts about online and offline sociality, rather than computer skills, explain the much-debated divergence of internet use. This brings us to our second hypothesis:

Hypothesis 2: People with more negative attitudes towards online social interaction have less positive rationales of using the internet.

3. Case selection, research design and operationalization

3.1 *The case of Telebrink*

We have used the case study of Telebrink in order to elucidate current theorizing on digital disparities. Telebrink is an internet platform, initiated by the Dutch Province of Drenthe (who also funded the research project on which our study is based) and the two rural municipalities of Aa en Hunze and De Wolden – comprising a little more than a dozen small villages. It is technically

designed and installed in cooperation with Microsoft and a few local ICT companies. The principal goal for the province of Drenthe to apply Telebrink in this area was an alleged deterioration of social cohesion. Like in many western rural areas, these traditional village communities are seriously threatened by the effects of contemporary social phenomena (e.g. changing life patterns, individualization, mobilization) and the retreat of many social services (doctors, libraries, schools) and private services (shops, banks) to the big cities. As these concrete places where social interaction took place on an everyday basis diminish over time, the province of Drenthe is seeking new ways to support and facilitate the organization of everyday life and to revitalize a sense of community. This is why Telebrink was introduced to the population: it is essentially a virtual meeting place providing new channels of social interaction and simultaneously facilitates all kinds of practical and instrumental benefits.

The web page of Telebrink consists of a local news platform, combined with information about local services and associations. This '*News Function*' mirrors the 'old internet' closely: it is mainly functional, informative, (partly) entertaining but most importantly a one-way flow of information. The two other parts of Telebrink resemble *Web 2.0*, as they perform a social, communicative and interactive role. It comprises a *Facebook*-like social feature, where every inhabitant can configure his or her own page. Social interaction between inhabitants should augment herewith. The other social function is the '*Digital Marketplace*', where not only goods can be traded, but informal services too. The organization of daily life is herewith simplified, while social interaction is facilitated. The representation of both 'forms' of today's internet in Telebrink, the idea of a sort of mini-internet, is what made this case theoretically interesting, since we could incorporate these two distinct aspects of today's internet in our research.

3.2 *Research design*

The whole research consisted of a quantitative part and a qualitative part, but for this article, we will mainly focus on the statistical results, and merely illustrate our findings with some excerpts from the 23 in-depth interviews we undertook. We have utilized a questionnaire ($N = 251$) to gain a broad view on the opinions on Telebrink and to test current theories on the digital divide. Moreover, our own theoretical ideas of the cultural domestication of internet technologies will concomitantly be put under statistical scrutiny. In other words, the two hypotheses, which follow from our theoretical discussion regarding *Computer Skills* and *Negative Attitudes towards online social interaction*, will be tested. Because of the predominance of socio-categorical variables in studies on the digital divide, we have included those as control variables. As we assume the aforementioned variables to correlate with each other, we will firstly show their interdependence to have clear overview. Thereafter, we will investigate

with a multivariate regression analysis which theory is better at explaining the rationales for internet usage.

3.3 Operationalization

3.3.1 Dependent variable: Rationales of Internet Usage. In the questionnaire, we have asked for the opinions about using the three different applications of Telebrink. We have measured these opinions with 17 propositions/questions on a five-point Likert scale (1 = very strongly disagree to 5 = very strongly agree). Negatively posed questions have been reversed (Table 1).

Principal component analysis produced a first factor, hereafter the dependent variable *Rationales of Internet Usage*, that explains 41 percent of the variance, with a reliability of 0.865 (Cronbach's α). If we regard the appreciations for the different functions of Telebrink (see Figure 1), one can see that the *News Function*, which can be thought of as exemplary of the more traditional internet, is widely popular (mean: 3.75; standard deviation: 0.74). Most people think of this application as a good idea, as the high percentages show. The *Facebook* function, on the other hand, receives much more resistance and its appreciation is far less unanimous (mean: 2.53; standard deviation: 0.85). This feature of the social and communicative aspects of today's internet cannot count on much support and is highly disputed. The popularity of the *Digital Marketplace* (mean: 3.19; standard deviation: 0.77), which combines functional possibilities with social aspects, is in between the other two applications and mimics an almost normal distribution. Higher scores signify more positive opinions.

3.3.2. Independent variable: Computer Skills. Like most other research in this field, we have measured peoples' computer skills through self-reported usage patterns. We have asked with what frequency they use certain computer programs. These are shown in Table 2. These indicators are thereafter used in a principal component analysis, producing a first factor that explains almost 44 percent of the variance. The reliability of the scale of this independent variable

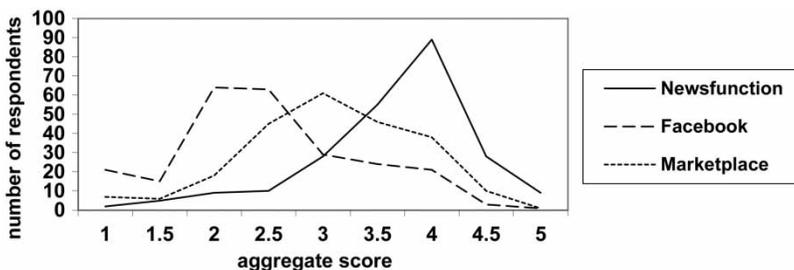


FIGURE 1 Appreciations for the different functions of Telebrink (1 low–5 high).

TABLE 1 Factor loadings of *Rationales of Internet Usage* indicators.

	% Agree (strongly)	Factor 1
<i>News Function</i>		
I would like to read local news on the internet page of Telebrink.	62.1	0.665
The appearance of local news on Telebrink would keep up-to-date as a villager.	66.0	0.671
As a villager, I have little need to find news and information on Telebrink.	22.8	0.619
Would you find it convenient to find out on Telebrink what the training schedule of the local football club is?	65.0	0.590
If you would like to find more information on local services, e.g. the library, the police or the doctor, would Telebrink be a useful way for you to find out?	83.9	0.668
If you would like to find out what's going on in your town, would the Newsfunction be a good platform to see that?	73.8	0.748
<i>Facebook</i>		
I would like to make a personal page on the Facebook (FB) application of Telebrink, so that other villagers can get to know me.	18.5	0.620
I would find it handy to find information about other villagers on the Telebrink's FB.	31.5	0.699
If you would like to know what new hobby your neighbor has, would you like to find that out on his FB?	14.5	0.711
If you would like to exchange messages with your fellow villagers, would FB be a good way to do so?	19.0	0.717
If you want to find out who the village representatives are, would FB be convenient for you to do so?	51.5	0.638
<i>Digital Marketplace</i>		
Being able to post a note for assistance on the Digital Marketplace (DM) would improve my daily life.	29.5	0.286
I don't find it an adequate way to ask my fellow villagers for assistance through the DM	45.2	0.421
I appreciate the new possibilities of the DM for enhancing community life	46.4	0.741
If you would like to know who in your village has that particular tool, is it a good option to find him through the DM?	43.4	0.660

Continued

TABLE 1 Continued

	% Agree (strongly)	Factor 1
If you are not able to pick up the children from school some day, would it be an appropriate way for you to find another parent who can through DM?	29.3	0.610
If you would like to help the elderly in your town, but don't know how, would DM be a handy way to do so?	48.8	0.668
R^2		0.413
Cronbach's α		0.865

Note: Principal component analysis, $N=251$.

TABLE 2 Factor loadings of *computer skills* indicators (in % of respondents).

	Daily	Weekly	Monthly	Yearly	Never	Factor 1
Presentation program	3.9	7.4	18.3	21.3	49.1	0.735
Graphic design program	3.0	12.7	21.6	17.8	44.9	0.708
Profile program (Facebook)	12.6	12.6	8.4	2.9	63.4	0.533
Instant messaging (MSN)	16.8	13.0	4.6	2.5	63.0	0.587
Spreadsheet program	14.7	14.2	20.3	14.2	36.6	0.644
Text editor	30.2	37.0	18.7	4.7	9.4	0.742
Email	54.0	27.0	9.7	1.3	8.0	0.701
Computer	79.3	16.0	2.5	0.4	1.7	0.624
R^2						0.439
Cronbach's α						0.799

Note: Principal component analysis, $N = 248$.

Computer Skills is 0.799 (Cronbach's α). We then continued to introduce a weight factor to differentiate between different activities so that the variable *Computer Skills* is more accurately measured. We have based these weights on the distribution of frequencies of use: the assumption is that if a function is utilized only by few people on a more frequent basis, then doing that activity indicates high skills value. For example, we assume that someone who uses a graphic design program, like *Photoshop*, on a daily basis should score higher than someone who uses a text editor daily. This is all completely based on the empirical figures of usage: if a certain activity is employed by less than 50 percent on a monthly basis, then we attached a weight factor 2. If more than 50 percent of the respondents utilize that function monthly, then it only counts once. This means that the first four indicators received a weight factor of 2 and the remaining four indicators a single weight factor. Higher scores indicate more skills.

TABLE 3 Factor loadings of *Negative Attitudes* indicators.

	% Agree (strongly)	Factor 1
It frightens me to communicate online with other people	13.0	0.805
New means of technological communication make me uncertain	15.1	0.661
I enjoy chatting with friends on the computer	22.7	0.488
On the internet, I find it troublesome to enunciate <i>how</i> I want to say things	27.2	0.709
I enjoy communicating with other people over the internet	27.6	0.438
There's no difficulty saying what I mean through online communications	28.1	0.645
I have the feeling I can no longer cope with all these technological advances	29.2	0.656
I feel confident communicating through the computer	43.0	0.746
These new ways of communicating result in a decline of social etiquettes	44.1	0.684
I am afraid of my privacy when I communicate on the internet	49.1	0.615
True social contact is only established in real life	53.6	0.480
R^2		0.410
Cronbach's α		0.835

Note: Principal component analysis, $N=230$.

3.3.3. Independent variable: *Negative Attitudes towards online social interaction.* As noted, the influence of culture is in the context of this research understood as moral considerations about the social role of the internet in everyday life. Eleven propositions have been used in the questionnaire to assess peoples' attitudes towards online, computer-mediated social interaction. Answers were given on a five-point Likert scale (1 = very strongly disagree to 5 = very strongly agree). Positively framed propositions have been reversed in subsequent analyses for ease of comparison. Principal component analysis produced a first factor, which explains 41 percent of the variance, with strong reliability: 0.835 (Cronbach's α). Higher scores on *Negative Attitudes* indicate stronger negative values towards online social interaction (Table 3).

4. Results

Before we will test our hypotheses, it is insightful to inspect first the correlations of our variables, because we theorize that these might be strong, and knowing those correlations helps interpreting the results from the regression analyses (Table 4).

TABLE 4 Correlations independent variables.

	<i>Gender</i>	<i>Age</i>	<i>Education</i>	<i>Computer skills</i>	<i>Negative attitudes</i>
Gender	1	-0.192**	0.053	0.120	0.007
Age		1	-0.076	-0.388**	0.241**
Education			1	0.283**	-0.178**
Computer Skills				1	-0.548**
Negative attitudes					1

** $\alpha < 0.01$.

As we imagined, many strong and significant correlations are found between our independent variables. The strongest correlations are found between *Negative Attitudes* and *Computer Skills*. Higher *Computer Skills* correlate with more positive attitudes towards online social interaction (and note that *Negative Attitudes* have been negatively positioned). Secondly, *Age* and *Education* correlate according to commonly established theoretical expectations: skills decrease with higher age, education augments skills. Lastly, it becomes clear that increasing age correlates with more negative attitudes towards online sociality, whereas education performs an opposite correlation: more education enhances less negative attitudes.

Let us now turn to the testing of our hypotheses. In Table 5, we have put the correlations of the independent variables with the dependent variable *Rationales of Internet Usage*, and the standardized *Beta*'s derived from the multivariate regression analyses. Model 1 investigates only the socio-categorical variables of *Gender*, *Age* and *Education*; in Model 2, the *Computer Skills* are attributed to the analysis; and in Model 3, the variable *Negative Attitudes* is included as well, and as such, this constitutes the comprehensive analysis.

TABLE 5 Multivariate regression analyses predicting *Rationales of Internet Usage* (Telebrink).

<i>Variable</i>	<i>Correlation coefficient</i>	β (<i>Model 1</i>)	β (<i>Model 2</i>)	β (<i>Model 3</i>)
Gender	0.059	0.033	0.064	0.075
Age	-0.004	0.001	0.193*	0.187*
Education	0.066	0.079	-0.022	-0.019
Computer skills	0.307**		0.233**	0.137
Attitudes	-0.428**			-0.316**
Adj. R^2		-0.006	0.099	0.157

$p: \sim = \alpha < 0.1$.

* $\alpha < 0.05$.

** $\alpha < 0.01$.

If we now regard the hypotheses we postulated, we can conclude the following. First of all, Hypothesis 1, i.e. ‘people with higher skills have more positive rationales of using the internet’ can be confirmed. The strong and significant correlations (0.307) with *Rationales of Internet Usage* indicate this. However – looking at the results of the comprehensive regression analyses (Model 3) – it can be seen that the effect of *Computer Skills* disappears, which indicates that the effect of *Computer Skills* is mediated by other variables. If we want to explain the variance in *Rationales of Internet Usage*, other factors come into play, most notably *Negative Attitudes*. Let us now turn to Hypothesis 2: ‘people with negative attitudes towards online social interaction have less positive rationales of using the internet’. This hypothesis is confirmed: the strong correlation (-0.428) of these attitudes with the rationales for using the internet is a good first indication. But also in the comprehensive multivariate regression analysis do the effects of *Attitudes* stand strong. What is quite remarkable is the surfacing effect of *Age* (0.187) in this analysis. However, as there is no correlation of *Age* with the rationales for using the internet *Telebrink*, the direct effect of *Age* is not shown. The significant correlations between *Age* and *Computer Skills* and *Negative Attitudes* make it plausible to assume that *Age* mediates those variables. However, this is beyond our point in this paper.

To conclude, both hypotheses (*Computer Skills* and *Negative Attitudes*) are confirmed, but it is clear that cultural attitudes towards online social interaction are most powerful in explaining the variation in rationales for using the internet – better than ‘socio-categorical’ and ‘skills and capacity’ explanations. It is demonstrated that uneasy, anxious feelings about online social interaction and ideas that these are detrimental to peoples’ social life make people stay away from the internet – or at least of its social applications that become increasingly important. And vice versa, positive sentiments and ideas about their social advantage enhance the motivations for using all these possibilities to the full.

Our quantitative study demonstrated that the cultural meanings and the moral beliefs people uphold about social life online influence their rationales for using the different possibilities of the internet most strongly. These findings are very much validated by our qualitative in-depth interviews held with 23 of the respondents. Indeed, as the following example of a young adult shows, it is not necessarily the lack of skills to interact online, but the belief that online interactions can never fulfill the qualities of what social contact should be, which can make some people to decide not to interact online:

In real life you have more fun. There are just these moments, you know, one makes a joke, and you experience things together, at that moment. With msn you can also tell each other things, but you don’t experience it together. Simply because the computer is in between, you are at two different locations. My friends and I just had a great night, everybody together; that is the most fun. Having a wine together and talking about this en

that, giggling about boys. You know, it is just more personal, that you really see each other that you can really react upon each other. With msn, you miss the true interaction. (Female, 18)

Other respondents, however, who have a more positive evaluation of Telebrink, openly question the widespread cultural assumption that social contact should be face-to-face. They stress that what people emotionally derive from the interaction is more important than the question whether this social contact is established in real life or online. Informed by this perspective, they refuse to make a judgment on what is better:

Well, yes that is the question of course: what do you understand as 'social'? You can say talking to each other on the playground is social: people exchange information; they have contact with each other. But under that 'social' lies of course the feelings people derive from it. That is the deeper dimension of sociality: feelings of being socially accepted. It is thus not only about the outward appearance, but it is about the feelings that people obtain. And that can be the same in a virtual world as on the playground. (Male, 58)

Yet, other respondents who are positive about Telebrink argue that online sociality even has advantages over face-to-face contact. Rejecting prevailing ideas about face-to-face contact as the best way, they happily interact, socialize and chat with each other online, because they uphold distinctly other ideas about what makes social contact real and valuable. The following respondent, for instance, emphasizes the opportunities of more freedom of expression in online social contact:

You are much more free. You can choose your words more carefully, whether that is really what you mean. You can express yourself differently than when you talk face-to-face, because you have more time. That is a big difference. It also implies a distance. A distance which enables you to think more thoroughly about what you mean, what you want to say, what you don't dare to say in real life. I have the feeling I can say more, it goes easier than face-to-face. (Female, 32).

5. Conclusion

The coming of age of the internet in the last 15 years has incited radical views on its liberating and emancipatory potentials. Both in academia and in the media, the alleged limitless possibilities have been described with pompous and ostentatious techno-enthusiasm. Ideals of a better, transparent and more democratic world, it

was held, can be realized through the net, and therefore everyone had to be included. From the outset on, however, it was pointed out that socially, economically and culturally disadvantaged people were less able to make use of the internet. An *a priori* assumption in this discourse was not only that all people *should* make use of the internet, but also that everyone actually *wants* to do so. Notions of a culturally informed choice towards internet usage have therefore been discarded under the guise of techno-enthusiasm on the one hand, and anxieties about a class-based ‘digital divide’ on the other. ‘Indeed, many current assumptions about non-use of ICT still fail to acknowledge individuals’ agency . . . [and ignore] . . . that people are more than simply “end users” with no role to play beyond accepting ready-made technological artifacts’ (Selwyn 2006, p. 275).

In a more general sense, such accounts about ICT and the internet convey a ‘blind spot for culture’ (Houtman 2003). In techno-utopian narratives, to begin with, the internet is all too often viewed as a *thing-in-itself*, existing only as a self-referential entity (Brey 2004, p. 57) that inevitably changes society and individual life for the better. Such deterministic accounts are problematic because technology has no inherent meaning; it only obtains meaning through the very cultural practices of the people producing and using it (Bijker & Finch 1987; Silverstone & Hirsch 1992; Frissen 2004). This cultural factor is particularly missing in numerous empirical studies focused on a digital divide – the gap between users and non-users that is allegedly an expression of social–economic stratification in contemporary societies. Albeit irrefutable that such influences on internet use do exist and hence lead to so-called *Matthew effects* (Merton 1968), they only tell part of the story.

In our study, we thus tried to explain differentiation in the usage of the internet by incorporating a perspective that underscores the role of culture in the (non) usage of the internet. Of course, material resources and structural inequalities influence that cultural complex. Moreover, in an age of increasing pressure on one’s time, it is exactly this material resource of time that may influence those cultural considerations. Nevertheless, the analysis demonstrated that moral beliefs regarding social interaction in general strongly influence rationales for (not) using those internet applications that provide full possibilities to chat, interact and socialize online. The latter, we think, underlines the theoretical relevance of our findings. Despite the strong focus on social–economic and material explanations, culture may have always been relevant in the appropriation and domestication of technology (Gunkel 2003; Selwyn 2004, 2006; van Dijk 2005; Partridge 2007). However, since the internet has evolved over the last years from a medium providing information to a truly interactive, communicative and creative *Web 2.0*, these cultural aspects may have become much more salient and important in explaining today’s variegated internet usage. Since the internet is not a homogeneous entity, different cleavages may be distinguished (Mossberger *et al.* 2003). Functional, informational aspects of the internet are widely used nowadays and do not really incite much debate, controversy or

dispute anymore. The social functions of the internet on the other hand instigate much more antagonism. Cultural issues regarding the role of this technology in our social lives apparently play a role herein. Involvement with technology is highly contested: some consider computer-mediated communication a blessing and others a curse (e.g. Turkle 2011).

Given these developments, it is puzzling that culture remains relatively understudied by most digital divide researchers (van Dijk 2007, p. 41). Further research should extend the cultural approach – perhaps starting with a bottom-up approach to qualitatively ‘explore the social processes underlying how technologies are consumed and used’ (Selwyn 2006, p. 275). Such studies should no longer focus on social–economic determinants explaining people’s (non) involvement with *the* internet but mainly on questions of why they (do not) use or negotiate and appropriate *different* internet applications. Since this type of research is still quite rare, we preliminarily theorize that the digital divide may be more a matter of cultural polarization than of social–economic stratification and more a culturally informed choice than the result of structural limitation.

Note

- 1 Yu (2006) constructed – from a review of 192 English language reports – a hierarchical list of factors contributing to these digital disparities in order of prominence.

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