



## Dinosaurs and fossils living without dangerous tools: Social representations of computers and the Internet by elderly Finnish and American non-users

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### **Abstract**

This study compares the computer- and Internet-related conceptions of Finnish and American elderly people who deliberately refuse to use the Internet. It seeks to answer the following questions based on various social representations: Are there similarities and differences in the way the Finnish and American respondents classify the computer and the Internet? Are there similarities and differences in the images the Finnish and American respondents use to depict the computer and the Internet? How do the social representations of the computer and the Internet express the respondents' distinct identities, history and culture? An analysis of written accounts provided by elderly Finnish and American people showed that both groups expressed an understanding of the computer and the Internet as a 'Tool and Thing' and 'Danger'. However, differences existed between their understanding of the computer as a 'Depriver of Freedom' and 'Marker of Differences'. The study concludes that their distinct identities, interests, history and culture may be some of the factors that limit their motivation and capacity to welcome and use the computer. To promote digital inclusion, the elderly should be provided with Internet-related information, training and support. At the same time, however, digital inclusion policies should also encompass a choice for Internet non-use.

**Keywords:** elderly internet non-users, elderly computer non-users, social representations, internet refusal, computer refusal, technology metaphors

### **Introduction**

In the 2000s, the use of computers and the Internet by older people grew rapidly in Europe (Euractive, 2005) and the United States (Zickuhr & Madden, 2012). Despite the digital divide narrowing, it still exists predominantly in terms of age, education levels and income (Euractive, 2005; Zickuhr & Smith 2012). In Finland, 95 per cent of people in the 45–54 age group are reported to have used the Internet in the last three months of spring 2011, whereas the

percentages for age groups 55–64 and 65–74 are 81 per cent and 53 per cent, respectively. Official statistics released in 2011 show that the percentage for the age group 65–74 increased by up to 10 per cent from the previous year (Official Statistics of Finland, 2011a). Despite the increase in elderly Internet users, as well as national and EU policies promoting active lifestyles, a large number of aging people are still either avoiding or have stopped accessing the Internet.

The US also has a high prevalence of Internet usage, and 91 per cent of people in the age group 30–49 are reported to have used the Internet in April 2012, whereas the percentages for age groups 50–64 and 65+ are 77 per cent and 53 per cent, respectively (Zickuhr & Madden, 2012). The percentage for the age group 65+ increased significantly between 2010 and 2012—only 40 per cent of people in this age group reported using the Internet in 2010. However, Internet usage declines significantly for the age group 75+ (34%), and it still shows a 24 per cent difference from the next closest age group (Zickuhr & Madden, 2012).

In developed countries, the Internet is seen as capable of providing a means to deliver services related to education, health, social security and welfare (Selwyn, Gorard & Furlong, 2005; Sourbati, 2009), as well as to promote democracy (Oikeusministeriö, 2010). Richardson, Weaver and Zorn (2005) argue that existing literature on older people's use of computers presents a very optimistic picture that shows it is highly desirable to all and that it produces only positive outcomes.

Selwyn (2003, p.106) argues that most academic research has focused on the *non-use* of ICT as a problem to be solved: '...to not use ICT is to choose not to be part of the information society - an irrational and ultimately disadvantageous position to adapt'. When considered an abnormality, the non-use of ICT has mainly been discussed within the discourses of economic and cognitive deficiency, technophobia, ideological refusal and diffusion (Selwyn, 2003, p. 106), or from the viewpoint of resistance to new technology (Bauer, 1997).

Research on those elderly people who *do not use* the Internet was mostly conducted using a barrier-analysis approach that focused on individuals. It was reported that non-users perceived no benefits or motivation, were intimidated by computer jargon, had security and safety concerns, lacked sufficient information and support, thought it was expensive, had physical limitations, had stereotypical thinking, had little or no experience, had unsuitable user interfaces or did not have a network connection (Cresci, Yarandi & Morrell, 2010; Harwood, 2007; Richardson, Weaver & Zorn, 2005; Wagner, Hassanein & Head, 2010).

The present study compares the computer- and Internet-related conceptions of Finnish and American elderly people who deliberately refuse to use the Internet. Instead of looking only at individual circumstances or deficiencies, this study explores their refusal to use the Internet from the perspective of *social representations*, and in particular, their iconic quality (Moscovici, 1976, 2000, 2008). The social representations approach is particularly useful for the study of new or much debated, emotionally charged issues (Contarello & Sarrica, 2007), and it was therefore considered suitable for the present study.

The aim is to compare how the elderly Finnish and American people that participated in our study understand the Internet and what it represents to them. The current study is an outgrowth of the first author's previous study on elderly Finnish people who refused to use the Internet, which indicated that the computer evoked many negative emotions (Hakkarainen & Hyvönen, 2010). Furthermore, the elderly Finnish respondents' social representations indicated an understanding of computers as risky 'tools and things' that threaten one's

freedom, lifestyle, health and security, as well as create differences between users and non-users (Hakkarainen, 2012).

## The Perspective of Social Representations

The social representations theory was originally formulated by Serge Moscovici, who defines a social representation as ‘a particular modality of knowledge’ whose ‘function is to shape inter-individual behaviours and communication’ (Moscovici, 2008, p. xxx). Social representations are ‘social’ or collective in two respects. First, individuals and groups create a social representation during the course of communication and cooperation. Second, and more importantly, they are ‘social’ because they ‘function as a framework for the interpretation of psychological, physical or collective phenomena’ (Moscovici, 2008, p. 32).

Moscovici (2000, p. 37) argues that the purpose of all representations is to make the unfamiliar familiar. He uses the concept of ‘taming’ (Moscovici, 2008, p. 105) to refer to this process. The construction of social representations is ‘a mental process that can make something that exists some distance away from us, or that is in some sense absent from us, familiar, situate it and make it present in our inner world’ (Moscovici, 2008, p. 19). Moscovici (2008, p. 13) compares individuals to ‘amateur scientists’ who are trying to ‘be in the know’ in order to fit the latest ideas and notions ‘into a coherent picture of the real or to slip them into a language that allows them to talk about what everyone else is talking about’.

The construction of social representations proceeds through two mechanisms: anchoring and objectifying. *Anchoring* means classifying an unfamiliar phenomenon, placing it in a given category and labelling it with a familiar name (Moscovici, 2000). For example, AIDS was first publicly understood in terms of venereal diseases and as God’s punishment (Wagner et al., 1999), whereas psychoanalysis was likened to the more familiar practices of conversation and religious confession (Moscovici, 2008). *Objectifying* means discovering the iconic quality of an imprecise idea or reproducing a concept in an image, and during this process using *an icon, metaphor or trope* to represent the new phenomenon or idea (Moscovici, 2000). For example, images of ‘decay’, ‘curdling like milk’ and ‘going off like milk’ have been observed in laypersons’ understanding of mental illness (Wagner et al., 1999, p. 99).

Two ideas are central to the construction of social representations: their *cultural variation* and their *creative power*. Central to the present study is the idea that social groups are distinct in terms of their social representations (Moscovici, 2000; Wagner et al., 1999; Bauer & Gaskell, 1999). Moscovici (2008, p. 22) defines social representations as a body of propositions, metaphors, value judgments or figurative beliefs that are ‘organized in very different ways by different classes, cultures or groups’. An example of this is the fact that in France, psychoanalysis was compared to religious confession in its early days because of the deep roots that the practice of religious confession had in France (Moscovici, 2008, p. 109). Wagner and others (1999, p. 100) stated that the trope and image groups used for representing a phenomenon are not arbitrary; rather, they are determined by the group’s experiential world. The differences can be socio-structural, historical, cultural/subcultural or inter-generational, or they could depend on the education level.

When making sense of their society and their world, individuals are, according to Moscovici (2008, p. 14), not ‘passive machines’ but instead have ‘the freshness of the imagination’. In a similar vein, Voelklein and Howarth (2005) argued that a social representation is not simply a repetition of an idea communicated by a dominant social group, but instead, individuals and groups always

have the possibility of transformation and change. For Moscovici (2000, p. 24), social representations are 're-thought, re-cited and re-presented' by individuals and groups. Thus, the act of representation can manifest creative power (Moscovici, 2008).

Research on social representations of computers and the Internet is scarce, with one of the exceptions being the work by Flick (Kilpiö, 2008). Flick and others (Flick, 1994, p. 190) studied how people 'cope psychologically with technological change in everyday life' in France and in East and West Germany. With respect to computers, the social representations varied according to the cultural context. For instance, people in East Germany considered the computer as more 'symbolically loaded' and understood it as a means for 'staying on the train' of technological progress (Flick, 1994, p. 194).

Kilpiö (2008) studied social representations among Finnish schoolteachers and looked into ways of conceptualising new technology, including the Internet. Teachers frequently used comparisons and metaphors when trying to familiarise themselves with the benefits and possibilities afforded by the Internet. Common metaphors used for the Internet included 'an environment', 'a tool' and 'a world' (Kilpiö, 2008, pp. 179–180). Teachers compared the use of information technology and the Internet to other, more traditional, instructional strategies or tools (e.g., pens, books), thereby anchoring technology to everyday practices (Kilpiö, 2008).

Contarello and Sarrica (2007) investigated different components of social representations used by Italian undergraduate students, namely information, attitude and representational field. The respondents' attitudes toward the Internet were, in general, moderately positive. Students' attitudes indicated an artificial-natural dichotomy, where naturalness is connected with easiness and harmlessness, and artificialness linked to difficulty and harmfulness. A judgment of artificialness also included elements of danger. In terms of metaphors, Contarello and Sarrica (2007, p. 1031) conclude that 'it seems that the most powerful metaphors for the device are provided by the participants who declare less familiarity and lower rates of use of this new technology'.

## Method

The aim of this study is to compare how elderly Internet non-users taking part in this study in Finland and in the US construct their shared understanding of the Internet and the nature of this representation. The aim is to look for similarities and differences between the Finnish and American research data. The study seeks answers to the following questions:

RQ1: Are there similarities and differences in the way the Finnish and American respondents classify the computer and the Internet?

RQ2: Are there similarities and differences in the images the Finnish and American respondents use to depict the computer and the Internet?

RQ3: How do the social representations of the computer and the Internet express the respondents' distinct identities, interests, history and culture?

## Data collection

The Finnish research data was collected in February and March 2009 by advertising for written accounts published in the regions of *Lapland*, *Northern Ostrobothnia* and *Kainuu*. This research has been reported in greater detail

elsewhere (Hakkarainen, 2012). The American research data was collected in October, November and December 2011 by advertising for equivalent written accounts in newspapers and free sheets published in the *Upper Peninsula of Michigan*. The advertisement was written in Finnish and then translated to English. These two countries were selected because of the availability of research locations and because the first author had worked as an exchange scholar in the US in 2011.

In both the Finnish and American advertisements, the respondents were asked to write an account of their lives based on the following questions: Why don't you use a computer? Would you like to use a computer? How do you feel about living without a computer? How do other people react to the fact that you don't have a computer? What are your daily activities without a computer? What kind of practical advantages or disadvantages does not using a computer provide?

The respondents were asked to either respond anonymously or include their names. We limited the minimum age of the respondents to 60 because the percentage of Internet users in Finland (Official Statistics of Finland, 2011a) and the US (Zickuhr & Madden, 2012) is lowest among those above this age.

The Finnish research data consists of 126 accounts in which life without a computer is described as the respondents' *deliberate choice* (Hakkarainen, 2012). The length of these accounts varies from 29 to 1,454 words, with the mean length being 238 words. Similarly, the American research data consists of 32 accounts in which life without a computer is described as the respondents' *deliberate choice*. The length of these accounts varies from 73 to 777 words, with the mean length being 326 words.

Although this study does not seek statistical significance, we need to comment on the differences in the number of Finnish (N = 126) and American (N = 32) accounts. Although there is a numerical difference, the number of stories received is comparable when considering the proportion of the population in both areas (we received responses from .019% and .011% of the population in Finland and the US, respectively). The total number of inhabitants in the regions of *Lapland*, *Northern Ostrobothnia* and *Kainuu* is 662,896 (Official Statistics of Finland, 2012). The total number of inhabitants in the *Upper Peninsula of Michigan* is 299,184, and the number of people in the age group 65+ is approximately 54,350 (US Census Bureau, 2012). The largest regional newspapers used in the Finnish data collection had 176,000 readers in the age group 50+ (Levikintarkastus Oy, 2012). The newspapers used in the American data collection had 58,655 readers (age not specified). These numbers show clearly that there is a significant population difference between the areas studied in Finland and those studied in the US. This population difference helps explain the difference between the numbers of accounts in the two data sets.

## **Respondents**

The present research data comprises 158 accounts. Table 1 summarises the respondents' gender distribution and mean age.

Country	Total accounts	Gender distribution		Mean age (years)
		M	F	
Finland*	126	33	92	69
USA**	32	8	24	76

\* no mention of gender = 1, no mention of age = 1

\*\* no mention of age = 2

Table 1. Respondents' gender distribution and mean age

Most of the Finnish (81%) and American respondents (75%) reported that they were retired from working life (no mention: Finnish respondents, 15%; US respondents, 22%). The Finnish respondents' most common lines of business were welfare and health (18%), business/finance (17%), training/education (9%), natural resources (8%), food and cleaning (8%) and technique (7%). The American respondents' most common lines of business were business/finance (36%), training/education (25%) and homemaking (20%).

The educational level of the respondents was relatively low, with 30 per cent of the Finnish respondents and 40 per cent of the American respondents having completed only basic education or less. Furthermore, among the Finnish respondents, 36 per cent had upper secondary level vocational qualifications, and 9 per cent had tertiary level qualifications, which is lower than the corresponding percentage (27%) of the entire Finnish population aged 15 or over (Official Statistics of Finland, 2009); in addition, a quarter of the respondents did not provide information about their education level. Among the American respondents, most had a low level of education, with only 28 per cent holding a bachelor's degree or higher. This is slightly lower than the averages for Michigan and the US as a whole (34% and 28%, respectively). However, 96 per cent of the American respondents held at least a high school degree; seven respondents did not provide information about their education level (US Census Bureau, 2012).

The Finnish respondents mostly lived in non-urban environments, with the largest number living in the regional councils of *Northern Ostrobothnia* (39%) and *Lapland* (37%); here, 8 per cent of respondents did not provide information about their location. *Northern Ostrobothnia* and *Lapland* are the two northernmost areas of Finland, and they are sparsely populated. However, the principal cities and their surrounding areas are more densely populated (Regional Council of Lapland, 2010). Finland is one of the most 'rural' countries within the OECD, with its northern and eastern regions having a greater dispersion and a higher proportion of the population living in rural municipalities than the southern and western areas (OECD, 2008).

Like their Finnish counterparts, the American respondents lived primarily in non-urban environments in the upper Midwestern USA. The *Upper Peninsula of Michigan* is a remote area of the state, accounting for 29 per cent of the state's landmass but only 3 per cent of its population (US Census Bureau, 2012). However, 55 per cent of the respondents from this rural area lived in one of the more densely populated cities.

The Finnish accounts indicated that nature played a big part in many of the respondents' activities, with several of them opting for outdoor recreation and exercise such as skiing, walking, trekking, Nordic walking (N = 53), yard work and gardening (N = 32), nature activities such as photographing and observing nature (N = 19), mushroom and berry picking (N = 16), hunting and fishing (N

= 14), spending time at a summer cottage (N = 12) and forestry work (N = 7) (Hakkarainen, 2012). While outdoor recreation was also highlighted in some of the American accounts (N = 9), most of the respondents opted for indoor activities such as reading (N = 12), crafts/decorating (N = 8), baking/cooking (N = 6), puzzles/games (N = 4) and writing letters (N = 2); they also opted for social activities such as church and volunteering (N = 6), spending time with family (N = 3) and socialising (N = 3).

## Data analysis

The starting point for the present analysis was the first author's previous study results on elderly Finnish citizens who deliberately refuse to use computers and the Internet (Hakkarainen, 2012). The results indicated that their social representations articulated four computer- and Internet-related dichotomies: useful/useless, free/dependent, risky/non-risky and similar/different. These dichotomies expressed four computer- and Internet-related conceptions that were designated as *Tool and Thing*, *Depriver of Freedom*, *Danger and Marker of Differences*. The Finnish respondents' social representations could be summarised as follows: *the computer and the Internet are useless and risky 'tools and things' that threaten one's freedom, lifestyle, health and security, as well as create differences between users and non-users.*

In the present study, we applied the same coding scheme used for the Finnish data in the previous study (Hakkarainen, 2012). Table 2 in the Results section presents the coding scheme and the analysis results of both the American and Finnish data. We started analysing the American data by transcribing it word-for-word and saving it as an MS Word document. Then we read the data several times and coded it independently according to the computer- and Internet-related concepts and justifications. For the coding, we used MS Word's commenting tool. The unit of analysis was sometimes a word, a phrase, a sentence or a longer text passage.

After completing our individual analyses, we compared and discussed the codings in four data sessions. After arriving at an agreement about the coding, we transferred the data and the codings into the qualitative data analysis software NVivo. Finally, we coded the images and metaphors in the respondents' accounts.

## Results

Table 2 summarises the data analysis and results. In the following subchapters, we describe the similarities and differences in the Finnish and American data according to the four clustered categories originally developed for the Finnish data, that is, the computer and the Internet as a *Tool and Thing*, *Danger*, *Depriver of Freedom* and *Marker of Differences* (Hakkarainen, 2012).

Original categories of computer- and internet-related concepts and justifications (Hakkarainen, 2012) (N; %)	Dichotomy featured in the orig. categories	Clustered category	Images and metaphors related to the computer and the internet
Useless tool (56; 44%) (23; 72%) Useful tool (43; 34%) (19; 59%) Personal work experiences (25; 20%) (4; 13%) Negative personal work experiences (19; 15%) (1; 3%) Not missing out on anything (8; 6%) (7; 22%) Junk and cords (5; 4%) (1; 3%)	Useful/ useless	Tool and Thing	'calculator', 'lazy teachers' favourite tool', 'glorified pencil', 'not much of a snow shovel', 'odd gizmo', 'strange contraption', 'gadget', 'humming, flashing cord', 'stupid mouse', 'contraption', 'technical contrivance', 'widget', 'newfangled invention', 'showy piece of junk', 'aide', 'junk', 'just another screen to look at', 'little black box', 'machine', 'search engine', 'thinking machine', 'unfriendly vacuum cleaner'
Independence, freedom (26; 21%) (2; 6%) Addictive computer (22; 17%) (4; 13%) Pressure from society (4; 3%) (6; 19%)	Freedom/ dependence	Depriver of Freedom	'slavery', 'imprisonment', 'hook', 'shackles', 'bondage', 'addiction', 'being stuck', 'being hooked', 'being bonded', 'tries to get you hooked', 'the devil asking for your little finger', 'good slave, poor master', 'being plugged in/wired/wrapped up/stuck', 'compulsion', 'slave'
<i>Risk to:</i> time resources (43; 34%) (10; 31%), security (26; 21%) (9; 28%), health (24; 19%) (5; 16%), trad. skills (15; 12%) (7; 22%), face-to-face human contact (12; 10%) (7; 22%), simple living (11; 9%) (3; 9%), energy resources (5; 4%) (0), silence (3; 2%) (3; 9%), undone household chores (3; 2%) (1; 3%), society (0) (8; 25%), other activities and things (30; 24%) (14; 44%) Easily obsolete, prone to technical problems (15; 12%) (9; 28%) Harmful content (11; 9%) (3; 9%) Nuisance (6; 5%) (3; 9%) Too much information (5; 16%) (4; 13%) Irrelevant content (0) (8; 25%)	Risky/ non-risky	Danger	'radiation', 'immobility', 'overgrown pathways between neighbours', 'replacement of humans', 'a robot caretaker', 'world of robots', 'flu', 'mentally ill', 'disabled', 'worms', 'viruses', 'flu viruses', 'computer worms', 'criminal gangs', 'thieves', 'information overload', 'information flood', 'spiritual pollution', 'time thief', 'waste of time', 'waste of time', 'babbling inanity', 'cold computer', 'cyber attack', 'God's replacement for flood', 'hassle', 'identity theft', 'idiots and thieves', 'infected sites', 'one more chore to do', 'personality quirk', 'robby' (pl. robies), 'royal pain', 'spy ware', 'trouble shooter', 'virus', 'worm mutating'
'Us non-users' (22; 17%) (18; 56%) Pressure from acquaintances (21; 17%) (5; 16%) Singular life (15; 12%) (0) 'Computer enthusiasts' (14; 11%) (2; 6%) Inequality (14; 11%) (3; 9%) Keeping up with modern times (11; 9%) (0) No pressure from acquaintances (3; 2%) (9; 28%)	Similar/ different	Marker of Differences	'fallen off the boat', 'man who signs his name with an x', 'fuddy-duddy', 'fossil', 'left behind', 'past expiration date', 'second-class citizen', 'myopic robot designers', 'not going with the flow', 'slow lane', 'hick', 'cutting my own path', 'backward grandmother', 'dinosaur', 'geeks and goons', 'left out of the loop', 'old-timer', 'wacky', 'way of the future'

Table 2. Summary of the data analysis and results for the Finnish (N = 126) and US data (N = 32)



We first present the social representations of the computer and the Internet as a *Tool and Thing* and *Danger*, which were, for the most part, similar in the American and Finnish respondents' accounts. Then we present the social representations of the computer and the Internet as a *Depriver of Freedom* and *Marker of Differences*, which were different in the American and Finnish respondents' accounts.

### Tool and Thing

Most Finnish and American respondents understood computers as tools, describing them in the dichotomy of 'useful/useless'. Within this understanding of the computer, there were no major differences between the Finnish and US respondents' accounts. Respondents from both countries considered the computer to be a useful tool mainly for finding information and communicating. This understanding of the Internet as a tool that can be used for specific purposes is in line with previous research on elderly people accessing the Internet (Buse, 2009; Kilpiö, 2008).

The respondents understand that the computer *could be* a tool they could use for a number of *specific and familiar tasks*, such as paying bills, taking part in quizzes, hunting down addresses during Christmas, finding information related to hobbies (e.g., crossword puzzles, travelling, cooking, knitting, genealogy), keeping in touch with friends and relatives, writing letters and other documents, book-keeping, making appointments or 'finding the best deal on an airline ticket'. However, they do not want to use it (Sourbati, 2009), and viewed it as something irrelevant to their lives. As one US respondent comments, 'WE [sic] are senior citizens who live (very nicely) without computers' (R1).

Both the Finnish and American respondents expressed an understanding of the computer as simply 'a thing' (Slack & Wise, 2010, p. 145), a material object for which they provided numerous labels (Moscovici, 2000): 'gadget', 'humming, flashing cord', 'stupid mouse', 'widget', 'thinking machine', 'little black box' and 'just another screen to look at'. The following two computer comparisons that the respondents provided are particularly interesting:

A computer? Why don't I use one? Well, it's not much when it comes to shovelling snow and it's just in the way when carrying firewood. (Finnish respondent R91)

Compare this to the user-unfriendly vacuum cleaners we put up with, have you ever tried to change a bag on one of these, or switch nozzles for a different task. They are like my computer – functionally imperfect. (US respondent R18)

As Moscovici (2000, p. 37) argues, the construction of social representations is a process of dynamic *familiarisation* in which 'objects, individuals and events are perceived and understood in relation to previous encounters or paradigms'. The above comparisons of the computer with a snow shovel or a vacuum cleaner exemplify the *process of constructing* social representations, as defined by Moscovici (2008, p. 19): '...in order to enter the world of an individual or group, an object enters into a series of relations and articulations with other objects that are already there, borrows their properties and adds its own properties'. Even if these comparisons may imply differences in the living conditions of the Finnish and American respondents, they both symbolically communicate the role assigned to computers: a tool to perform specific, mundane household chores.

Furthermore, what the first author concluded about the Finnish data (Hakkarainen, 2012) also applies to the American data. The image shared by younger generations of the Internet as a *virtual place, environment or world to visit* (Baym, 2011; Boellstorff, 2008) where you can *meet* or *hang out* with friends and *consume, share* and *produce* content (Ito et al., 2010) is missing from the data.

## Danger

The social representation of the computer as a danger was found in both the Finnish and American data. The computer is depicted as a risk to time, security, health, traditional skills (e.g., hand writing), face-to-face human contact, 'simple living', silence, undone household chores and various other things (Harwood, 2007; Richardson, Weaver & Zorn, 2005; Wagner, Hassanein & Head, 2010). In terms of the computer being a security risk, the respondents resorted to the medical images of 'worms', 'worm mutating', 'viruses' and 'infected sites' that plague the computer and the Internet. Furthermore, the computer user was seen as being faced by 'criminal gangs' and 'thieves' who perform 'cyber attacks' and 'identity thefts'.

Both the Finnish and American respondents' accounts express an understanding of the Internet as a threat to 'simple living'. Some Finnish respondents claimed that the computer was a threat to a lifestyle portrayed as 'easy and simple', 'peaceful' and 'modest', and 'not too hectic', 'complicated' or 'hurried' (Hakkarainen, 2012). In a similar vein, the American respondents described their lifestyle as 'uncomplicated', 'uninterrupted by computer-generated busyness' and with only 'few buying needs'. Even if this lifestyle of cutting down on one's activities, possessions and technologies bears a resemblance to the contemporary concept of downshifting, as represented in popular media (e.g., Wikipedia), the social representation may be best understood when considering the respondents' distinct history and culture (Wagner et al., 1999). As one of the American respondents wrote:

Back in the thirties, we lived seven miles out of town. No electricity, no phone. And although my father was gone, with seven of us (out of nine) still at home, life was just as enjoyable as it is today, maybe more so. We had to feed ourselves, but what made life so enjoyable, was the simplicity of it. We did a lot of things together. If you had a baseball glove, you were on top of the world. We played cards in the evening. (R23)

A *nostalgic attitude* is evident in both Finnish and American respondents' accounts in the way the computer is understood as a risk to traditional skills such as cursive writing, letter writing, spelling and even thinking. Baym (2011, p. 26) argues that parallels between today's anti-discourse about the Internet and earlier rhetoric about technologies such as the telephone are striking, and that 'the concern that communication technologies make us dumber is as old as writing'. Some of the respondents clearly voice this old concern again:

Today, kids are all wrapped up in computer games. I believe they let the computers do their thinking for them. I'm still ahead of my grandkids in math. I do my math with my brain. (US R23)

In my day you used your head for something besides a hat rack. (US R28)

The American respondents' accounts expressed yet another threat that was not coded in the Finnish respondents' accounts, namely the computer as a threat to society. These stories voiced a highly negative view of contemporary society, and saw computers from the viewpoint of technological determinism; that is,

as an external agent that changes society (Baym, 2011), as these examples illustrate:

It [Internet] creates a whole civilization of people who are filled with self-importance and self-absorbtion [sic]. I don't want it. I don't need it. The world would be better of [sic] without it. (R9)

I feel there may be trouble headed for Rome because of the 'new' communication. (R19)

In both the Finnish and American respondents' accounts, the computer is described as posing a threat to face-to-face social encounters by *superseding* them. This understanding goes against research results from studies on Internet use that show that Internet users are generally more social than non-users (Baym, 2011). However, this understanding again voices the concern that has been expressed throughout the history of electronic communication, namely that the Internet is removing people from their local relationships with families and communities (Baym, 2011). Furthermore, some respondents expressed the understanding of computers as *replacing* humans. For instance, one American respondent describes children as only partly human: 'Kids seem more likely to be called "robies" – robotic thinking' (R32).

While the computer was understood as being easily obsolete and prone to technical problems, as being a nuisance, as having too much information and as being harmful owing to its content by both the Finnish and American respondents, only the latter wrote about it in a way that we coded as 'irrelevant content'. This implies that the Internet is 'nonsense', 'junk', 'spam', 'crappy video games', 'merchandise one doesn't need – information one can't use', 'jokes', 'babbling inanities' or 'unnecessary trivia'. Again, one American respondent refers to his past when justifying his understanding:

I grew up in an age when the telephone was for 1) emergency 2) legitimate business and 3) contact with family and friends and limited socialising; (limited, because that phone time was precious – you didn't waste time and money with unnecessary trivia) – How can anyone spend so much time on a computer?! Why does anyone feel that they need to talk all the time? There must be something extremely gratifying about spreading our babbling inanities around the block and sphere. (R13)

### **Depriver of Freedom**

A dichotomy evident in a number of Finnish respondents' accounts was freedom/dependence (Hakkarainen, 2012). Within this social representation, the computer was understood as a depriver of freedom. Interestingly, Nye (2004, cited in Baym 2011, p. 28) argues that nineteenth-century Americans responded to new technologies of the time both with utopian and dystopian visions, and that the dystopian reactions emphasised fears of losing control, becoming dependent and being unable to stop change. However, this dichotomy was less evident in the American respondents' accounts, in which we found only two instances that fitted the coding category 'independence, freedom'.

One way to explain this difference is to refer to the American notion of individuals as agentially in charge and in control of their actions. Markus and Plaut (2001, p. 188) argue that this notion has been one of the reasons why the idea of social representations has been slow to spread in the US: '...the core of the American's social representations about themselves is that they are free from social constraint and that they live outside social representations'.

In the Finnish data, the idea of losing one's freedom is manifested through numerous images associated with work, judicial systems or drugs. Therefore, we have, for example, the metaphors 'slave', 'prisoner', 'hooks', 'shackles' and 'bondage' associated with Internet use (Hakkarainen, 2012). In the few instances where the dichotomy of freedom/dependence was visible in the American data, the images were similar to the ones found in the Finnish data.

Most of the Finnish respondents were pensioners/ retired people and had a relatively basic education, which makes their concern about losing their freedom more understandable; they were probably used to set working hours during which they were supervised closely by their immediate managers (Hakkarainen, 2012). The specific social conditions of a certain group favour specific types of images and metaphors in social representations (Wagner et al., 1999). One Finnish respondent even says that being free of computer is like not having to clock in and out of work as she was used to doing: 'I now have time for hobbies, time to LIVE – without a computer and a clock to punch!' (R60).

Technology is not a neutral force (Bauer, 1997; Nelkin, 1997). As Bauer argues (1997, p. 1), 'It creates opportunities and simultaneously constrains human activity. We experience the latter as being paced by "machines" rather than controlling them'. In the Finnish data, the idea of being controlled by the computer was more evident, which seems to go against scientific understanding, according to which the relationship between culture and technology is reciprocal and that neither side is enslaved to the other (Slack & Wise, 2010; Baym, 2011). Interestingly, the *Depriver of Freedom* representation contrasts with the popular and scientific image of modern mobile Internet technologies as simultaneously increasing and decreasing users' psychological, social and physical freedom (Jarvenpaa et al., 2003).

The Finnish respondents' overtly negative representation of the computer as a freedom-endangering tool may reflect a self-defensive standpoint towards computerised society and the pressure to become a computer user (Buckingham, 1994; Wagner et al., 1999). The highly emotional quality of the Finnish respondents' accounts (Hakkarainen & Hyvönen, 2010) can also be interpreted to indicate that the pressure experienced by the Finnish respondents to use the computer might be higher than the pressure experienced by their American counterparts.

### **Marker of Differences**

The dichotomy 'similar/different' was evident in the Finnish respondents' accounts. In their social representation, the use of the computer and Internet was employed as a *Marker of Differences* between the respondents and others (Hakkarainen, 2012). A number of Finnish respondents presented their decision to refuse the Internet as being motivated by a desire to live a singular life and not 'go with the flow', as this excerpt from a Finnish respondent shows:

I don't hate computers but I don't enjoy working with them either. I've never even entertained the idea of getting one; I've never been the kind of person who has to go with the flow. I don't even have a mobile phone with a camera, although everyone else seems to have one. I've never followed fashion in the way I dress; I've always just worn clothes that I like.  
(R103)

However, in the American data, we could not find any instances that pointed to the category of 'singular life'. Some Finnish respondents described their decision in the context/framework of keeping up with modern times (Richardson et al., 2005). For some, the decision means being left behind or outside

modern times, whereas for others it means not being left behind (Hakkarainen, 2012). The American data, on the other hand, did not indicate this line of thinking.

Both the Finnish and American respondents' accounts suggested a type of positive 'us non-users' identity. The respondents used numerous images to describe themselves as computer non-users, which were articulated in a humorous, self-deprecating manner. The Finnish respondents used images like 'having fallen off the boat', 'past expiration date', 'fossil', 'second-class citizen', 'left behind' and 'man who signs his name with an x' (Hakkarainen, 2012), whereas the American respondents used images like 'dinosaur', 'left out of the loop', 'old-timer' and 'wacky'. While a roughly equivalent proportion of the Finnish and American respondents reported having experienced pressure from acquaintances to use the computer, the proportion of respondents writing about *not* experiencing pressure from acquaintances was larger among the American respondents.

Some of both the Finnish and American respondents' accounts clearly refer to *social inequality* between users and non-users, and to the discursive, commercial imperative of modern society to buy and use the computer (Richardson, Weaver & Zorn, 2005). For example:

It only bothers me that the many raffles, games and chances to present one's opinion in the papers tell you to reply to something dot fi. Likewise they are always trying to get you to pay for things electronically. This is one sign that the myopic robot designers are seriously trying to create an Orwellian world where humanity is forgotten. There are a lot of us older people who don't know how to use and don't want a computer or other technology. (Finnish respondent R88)

I fell [sic] limited in what I can do in this computerised society. Everyone is telling me to go to .com and I can't do it. I can't get recipes [sic] or enter a contest etc. You cannot force a 60–80 year old to change. You must provide means by which they can exist. (US respondent R15)

## Discussion and Conclusion

This study compares the computer- and Internet-related conceptions of elderly Finnish and American people who deliberately refuse to use the Internet, and explores their refusal to use computers from the perspective of various social representations (Moscovici, 2000, 2008). The social representations of the computer and the Internet as a *Tool and Thing* and *Danger* were, for the most part, similar in both the American and Finnish respondents' accounts. Most understandings of the Finnish and American respondents as a useful tool centred around information gathering and communication. Despite any acknowledgement of usefulness, most respondents believed the computer to be a tool that served no purpose for them, as socialising, communication and information gathering takes place in other avenues. Thus, both the Finnish and American respondents exhibited the mechanism of anchoring by fitting the computer (as a tool) into a familiar category. Rather than being seen as a useful tool, the computer is given a label likening it to an object more familiar to the respondent, such as a vacuum cleaner or a snow shovel.

Similarities also existed between the Finnish and American respondents in terms of *Danger*. Both viewed the computer as a risk—to 'security', 'simple living', 'face-to-face interaction' and so on. Many viewed the computer as a security danger, and used similar metaphors related to infection and disease (i.e., 'flu', 'worms', 'infected sites'). The computer as a threat to 'simple living'

or traditional skills reflects a *nostalgic* desire for an earlier, simpler time, as noted in many respondents' stories. As Randall (1997, p. 58) argues:

Change is a necessary feature of life. 'Change' may ring well from the lips of aspirant politicians. But much fundamental change is painful and that which destroys old ways of life more painful still. We should approach our analysis of those who resisted change with more humility and with more sympathy.

Why do these similarities exist between the two data sources? Despite their different locales, both sets of respondents have at least somewhat similar backgrounds in terms of computer experience. For both the Finnish and American respondents, the computer would have been introduced later in their life. The respondents' social representations of the computer and Internet reflect their age and fairly traditional lifestyles in highly developed countries in non-urban settings where Internet and computer use is lower than in urban settings (Official Statistics of Finland, 2011b). Part of this lower usage can be explained by the limited Internet infrastructure (LaRose et al., 2007; Boase, 2010), whereas for the respondents of this study, the decision to not use the Internet is a deliberate one.

Social representations about the computer vary between different groups (Moscovici, 2000; Wagner et al., 1999; Bauer & Gaskell, 1999), and this study has shed light on this variation. The social representations of the computer and the Internet as a *Depriver of Freedom* and *Marker of Differences* point to differences between the American and Finnish respondents' understanding. The Finnish data shows a strong emphasis on these two representations. In the American data, however, there was very little discussion regarding 'losing control', which may be partly explained by the pervasiveness of 'freedom' in American culture (Markus & Plaut 2001, p. 188). Furthermore, in terms of a *Marker of Difference*, the Finnish data reflected the desire to live a singular life, something that was absent in the American data. Despite these differences, there was one major similarity between the two data sets—an 'us' versus 'them' mentality, which was often laden with value judgments (Moscovici, 2008, p. 22) to represent differences between users and non-users.

The present study has limitations. To achieve a better understanding of the respondents' refusal to use the Internet, it would be beneficial to employ complementary data collection methods that focus on the *construction processes* of social representations (Moscovici, 1976, 2008). The present research data does not allow for arguing whether there was variation depending upon individual circumstances, for example, respondents' *knowledge* (Moscovici, 2008) about what the Internet offers, previous experiences and occupations or their rural/suburban locations. Furthermore, it would be important to analyse how different information sources, especially mass-mediated messages, may contribute to what elderly people think about computers, the Internet and their relationship with them.

Although the respondents had a relatively broad understanding of what the Internet can be used for (e.g. paying bills, finding information, keeping in touch with friends and relatives, shopping etc.), their conception was somewhat deterministic and stereotypical. They saw computers as a security threat and as an external agent that changes society, enslaves people (cf. Slack & Wise, 2010; Baym, 2011), and removes them from their local relationships with families and communities (Baym, 2011). This calls for awareness-raising activities (e.g. media literacy campaigns, guidance materials, training, support) from industry, governments, educators and non-government organisations. The activities should aim at providing more balanced Internet-related information and altering elderly non-users' overtly negative perceptions of the Internet as *Tool and Thing*, *Depriver of Freedom*, *Danger* and *Marker of Dif-*

ferences. In addition, a safety by design approach is called for to address elderly non-users' security and safety concerns. It is essential to incorporate risk and safety concerns into the design stage of Internet technologies (Livingstone, 2009).

On the other hand, some of the respondents' accounts clearly refer to *social inequality* between Internet users and non-users. Furthermore, the study indicates that the respondents' distinct identities, interests, history and culture may be some of the factors that limit their motivation and capacity to welcome and use the computer (see also Ling, 2008). Therefore, to promote both digital inclusion and cultural inclusion, digital inclusion policies should also encompass a choice for Internet non-use.

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