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**Published**

2003

**Conference Title**

Reimagining practice: Researching change

**Downloaded from**

<http://hdl.handle.net/10072/1693>

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# The Internet as a Medium for Increasing Social Inclusion: Does the Virtual Learning Process Support Theories of "Successful Ageing"?

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A number of important questions about the older learner and the Internet need to be answered to ensure that programs are developed that are best suited to the special needs and interests of the growing population of older on-line learners. This paper adds to an initial report involving e-mail interviews with a group of nine older people from three countries. The initial study used a retroductive strategy to discover some underlying issues related to older people and on-line learning. Participants were asked to respond to a number of open questions and statements presented to them at about 3-week intervals. Text analysis was used to specify the major ways in which eight of these participants wrote about the Internet. The initial study found that these on-line learners focused on positive Internet interactions related to personal, social, and study activities rather than on ageing per se, consistent with that component of Rowe and Kahn's model indicating successful agers keep their minds active. In a follow-up study, nine participants were asked five follow-up questions with the aim of further examining the relevance of the Rowe and Kahn model. The present paper discusses the result of follow-up analyses based on the responses to all eleven questions.

## **Successful ageing**

The global population is ageing at an unprecedented rate, a fact attributable to a combination of lowered fertility and improved health and longevity. After the year 2010, the numbers and proportion of older people, especially the oldest old aged 80 years and older will rise rapidly in developed and many developing countries (Kinsella & Velkoff, 2001). The global trend towards increased life expectancy suggests that preventative rather than remedial interventions must become the major goal for addressing myriad social and economic challenges that accompany population ageing. Friedrich (2003) summarised findings from a number of large studies that promote the notion of integration of physical, psychological, and social domains for developing optimum solutions for ageing-related issues.

The MacArthur Foundation Study of Successful Ageing (Rowe & Kahn, 1999) illustrates the substantial gains in understanding of ageing that can flow from an integrated research approach. The study, which was actually a coherent set of dozens of individual research projects, was the most extensive and comprehensive multidisciplinary

study on ageing in America. One aspect of the study entailed following the lives of more than 1,000 high functioning older people for 8 years, in order to determine the factors that might predict successful physical and mental ageing. Many successful agers in the study reported that they sustain their mental ability as they age by actively working at keeping their minds sharp. The research suggested that "this is part of a cycle that promotes mental ability: the more you have, the more you do; the more you do, the more you preserve" (p. 130). Education was found to be the strongest predictor of sustained mental function in later life. Rowe and Kahn speculated on two possible effects that could explain this link. First, education in early life may have direct beneficial effect on brain circuitry; or second, education may set a lifelong pattern (e.g., reading, chess, bridge, and crossword puzzles) that serves to maintain cognitive function in old age. Furthermore, some actions to avert or minimise cognitive loss can be undertaken at any age. With training, "elderly men and women who have experienced some cognitive decline can...offset approximately two decades of memory loss" (p. 137).

Successful ageing, ageing well, healthy ageing, and positive ageing are among a number of closely related approaches to ageing research that address the totality of the ageing process. It is now clear that choice plays a key role in an individual's ability to minimise, delay, or even avoid many of the decrements that accompany biological ageing. For example, Rowe and Kahn (1999) defined successful ageing as an ability to maintain three key behaviours or characteristics. These are a low risk of disease and disease-related disability; high mental and physical function; and active engagement with life. Each of these is important and, to some extent, independent of the others. Clearly, maintaining high mental and physical function and active engagement with life involve choice. However, even disease and disability are caused in large part by extrinsic factors, such as how we live and what we eat, and, therefore, are similarly influenced by choice. Choice is also involved in the regime we adopt in managing disease and disability once they occur. An important thrust of these integrated studies is that they have the potential to transform wider society's deeply ingrained, condescending mindset that ageing inevitably equates with poor health, decline, and expensive reliance on social services, into a socially acceptable and more factual understanding of the realities of ageing.

One of the three main characteristics of people who age successfully is that they continue to actively engage with life through two main behaviours, which are often but not always closely related. These behaviours are (a) maintenance of close social networks and (b) involvement with productive and interesting activities. The importance of social networks to an individual's well-being has been widely documented (Bowling, 1994). However, in general, older people's social networks are in greater jeopardy than younger people social networks. For example, retirement or relocation abruptly severs social networks for many. Older people also drop in and out of isolating periods of ill-health more frequently than do younger adults. In addition, at some stage, many older adults are forced to give up driving, and their social networks are jeopardised if public transport is inadequate, too expensive, or too difficult to access. Many older people also become caregivers for ailing spouses or friends. The most obvious and increasingly likely isolating factor that accompanies advancing years is death of a spouse or close friend.

The impact of these and similar isolating events on older persons' social networks is readily apparent from demographic data that are routinely available in many developed countries. For example, the Australian Bureau of Statistics (ABS, 2002a) reported that the average adult in 1997 spent about 3 hours alone each day. In contrast, 32% of older people aged 65 years and over lived alone in 1997, and they spent an average of 79% of their waking time alone (about 12.5 hours per day). It seems reasonable to speculate that many of these socially isolated older people would also have difficulty in taking part in productive and interesting activities. In other words, their opportunity to actively engage with life, which is one of the three key criteria for successful ageing, may be severely curtailed. Projections of a sharp growth in numbers of people who will live alone considerably worsen the future implications for successful ageing. The ABS (2003) has projected that, by the year 2021, living alone numbers will grow by between 52% and 113% from the 1996 level of 1.6 million. The majority of these will be seniors aged 65 and older.

#### **Successful ageing and the Internet**

New communication technologies have the potential to encourage large numbers of older people to engage in interesting and inexpensive successful ageing behaviours. Maintaining independence is the principal goal of many older people, and few issues strike greater fear than the prospect of depending on others for their most basic daily needs (Rowe & Kahn, 1999). A key to maintaining this independence is the ongoing fostering of meaningful social interactions. Some studies have highlighted the potential of the Internet to create such interactions (Komito, 1998). Hampton and Wellman (2001) carried out a longitudinal study of residents of Netville, a suburb in which residents had routine access to advanced new communication technology. They found greater evidence of community involvement and strengthened ties with friends and relatives living far away from Netville, compared with those who did not routinely use the new technology. These studies underscore the potential of new technologies to foster new social networks.

Even vulnerable isolated and lonely ageing people who may be on the verge of sliding into full dependency may be happy to experiment with new approaches that can enrich their lives. As a case in point, Swindell and Mayhew (1996) showed that small groups of frail elderly people with active minds, who were confined to their homes by illness or incapacity, gained measurable benefits from educational programs that were delivered by teleconference. Several of the participants developed new social networks as a result of interacting with like-minded others in teleconferencing groups. Although this particular study was done before Internet technology was widely available, the potential of the Internet to help older people to maintain their independence seems to be clear. The Internet is a much more flexible medium than any other communication technology for empowering isolated older people. The Internet is becoming increasingly easy for novices to use; information can be exchanged quickly, often in real-time; once the technology is in place, it is durable and quite inexpensive to use; and the proportion of older people who have used a computer continues to climb rapidly.

There is an obvious question about the potential of the Internet to assist older people to engage in successful ageing pursuits: "Are they interested in learning to use technology that played little part in their earlier lives?" In developed countries, the answer is "yes." For example, a recent report showed that 18% of Americans aged 65 and over in 2002 had Internet access (Lenhart, 2003). Although this percentage is much smaller than in younger cohorts, Fox (2001) noted that "wired" seniors in the USA are among the most devoted users of the Internet, with approximately 69% going online each day compared with 56% of all Internet users. In addition, the 50-64-year-old cohort also makes extensive use of the technology in their daily lives. These Internet users are likely to keep up Internet access even after they retire. Fox suggested that, as they become older, this "silver tsunami" might be the first generation to take full advantage of all that the Internet has to offer.

The silver tsunami metaphor appears to apply to Australia as well as to the USA. In Australia, which is ranked sixth in the world in 2000 in terms of the total number of Internet users, growth among older users has been spectacular. Although the absolute numbers of older Australians who access the Internet are considerably less than in younger cohorts, the fastest rate of Internet growth is now occurring among older adults. For example, the number of adults aged 55-64 years accessing the Internet doubled between 1998 and 1999 and, by 2000, comprised 26% of that population (ABS, 2000). The principal motivation for older Australians to switch to the Internet is to keep in close communication by e-mail with their children and grandchildren. Other frequently cited reasons are for taking control of finances, monitoring health-related sites, shopping, and engaging in leisure activities. The growing popularity of the Internet suggests that strategies directed at encouraging older adults to use the Internet to take further control of their lives will not wither through technophobia or indifference to the Internet.

### **U3A Online**

U3A and other emancipatory adult education programmes, which provide intellectually stimulating activities in a social environment specifically for older adults, are widely available in many countries. However, the realities of life in general, and ageing in particular, are such that not everyone who would like to take part can do so. U3AOnline (U3AOL) began in 1998 with the principal aim of developing and delivering inexpensive, high quality electronic courses over the Internet for isolated older people. Since then, the concept has broadened to include the general ageing population and other people liberally interpreted as being in their Third Age (including younger people with special difficulties such as hearing, vision, or mobility impairment). The project is entirely run by volunteers who mainly communicate by e-mail. Collectively, volunteer contributions amount to thousands of hours each year.

To date, 15 courses, each equivalent to about 8 weeks of part-time study, have been developed, each written by retired experts in an area; with other courses at various stages of completion. Course materials are accessible at any time for independent study or during scheduled blocks when course leaders are available to meet in cyberspace with small groups of participants. "Interaction" takes place via asynchronous electronic forum, which allows participants to discuss a course or wider issues with other group members.

Recently, the potential of the project to assist third agers from anywhere was given a substantial boost through the backing of a large university. Griffith University has agreed to host the project on its server without cost and has obtained agreement to use its commercial Blackboard Internet course delivery software for U3AOL participants, regardless of geographical location. Discussions are currently underway with adult educators in Germany to translate these courses into German for the benefit of older people there. If the German "experiment" proves successful, then the potential of U3AOL to assist older people from non-English speaking cultures to engage in successful ageing activities via the Internet will be considerable.

### **Findings from an online focus group**

Little is known about the characteristics and aspirations of older people who have taken the apparently adventurous step of engaging in new learning activities using a technology that quite possibly played little or no significant part in their formal working lives. In order to find out something about the backgrounds of U3AOL participants, a retroductive approach was adopted in which a group of nine volunteers formed part of a case study aimed at understanding and identifying important aspects of the on-line experience. The method and initial findings have been described in some detail in a preliminary paper (Swindell & Grimbeek, 2002). In brief, participants were asked to respond by e-mail to a series of open-ended questions designed to draw out their thoughts and ideas. Individual e-mail addresses and personal identifiers were removed, and the lengthy e-mail responses compiled verbatim into one long e-mail and sent to each participant for additional comment. This process was repeated for each of the six questions that formed the first stage of the study. Among many interesting findings, the initial text analysis distinguished between positive social, study, etc., interactions to do with the Internet as opposed to negative interactions about ageing per se (e.g., poor health, decrements, scarce resources, etc.). These preliminary findings supported Rowe and Kahn's contention that successful agers are those who keep their minds active, engage with life, and do many interesting things.

In stage 2 of the study, participants were asked a further series of five open questions that invited wide reflection. Most of the questions arose directly from the Rowe and Kahn model for successful ageing. It was hypothesised that these successful ageing participants would, among other things, stress the importance of taking steps to maintain their health, developing social networks, pursuing a range of hobbies, and enjoying doing new things.

### **Method**

With this in mind, all nine participants were asked the following five additional questions.

1. We notice that some members of the group appear to be in good physical health, while others are managing various diseases and disabilities. What are you doing to manage your health (whether it is good or otherwise), and how have you attempted to maximise good health in the past and in the present?

2. We notice that people are differently situated with respect to their group of close friends and acquaintances. Could we ask you to comment on your current network of friends, whether they are on-line or otherwise.
3. Has participation in e-mail and other Internet activities reduced any feelings of isolation or loneliness you may have experienced? If so, can you tell me how?
4. Can you please list your hobbies and interests, and tell me whether or not they influenced the courses you took.
5. We think it likely that older people who ventured into learning in cyberspace before the medium was well known by the wider ageing population, must have an innate sense of curiosity, a sense of adventure and/or are "risk takers", or both. Please think about your entire life and describe what family or environmental circumstances may have shaped your willingness to venture into cyberspace.

Participant responses to the additional five questions were prepared for text analysis using the software package, Leximancer (Smith, 2002), and by collating these responses with responses to the first six questions to produce nine transcripts with responses to all eleven questions. Although Leximancer does not replace other text analysis tools such as NUD\*IST (2002), its nonselective exploration of any given sample of text is in stark contrast to "more literary forms of textual analysis [that] select particular areas of the message for special study while ignoring others (Fiske, 1990, p. 137) and, thus, provides a more secure basis for NUD\*IST and other text analyses.

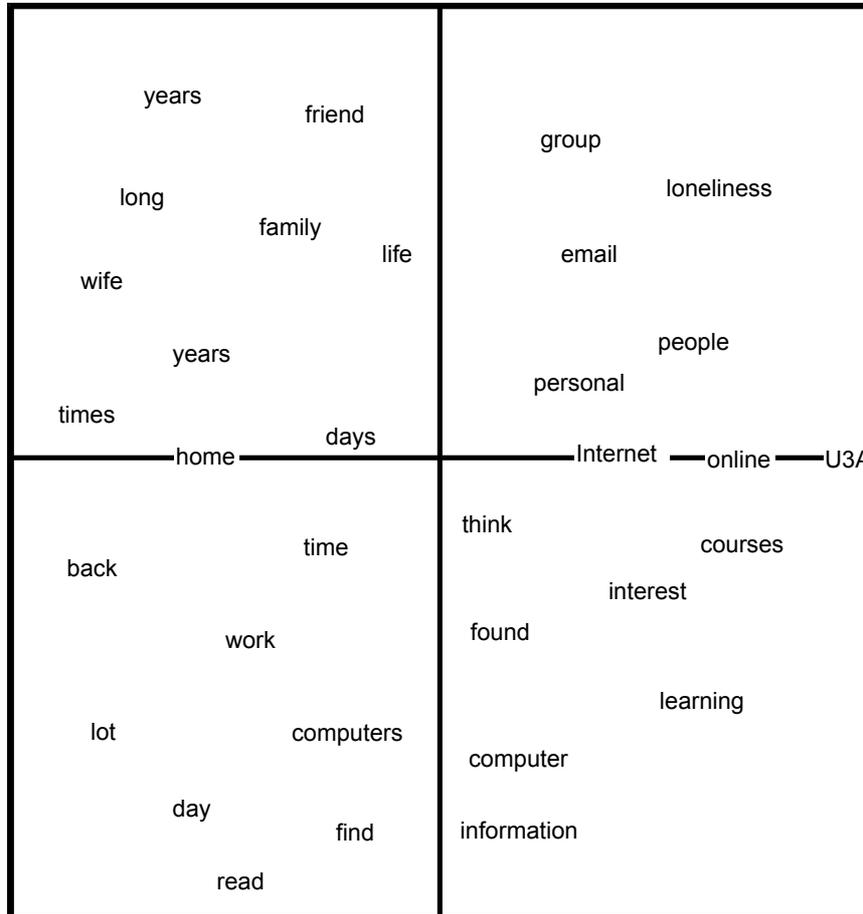
Leximancer computes the frequency with which each term is used, after discarding text items of no research relevance (such as "a" or "the") and then computes the distance between each of the terms via computations equivalent to nonparametric factor analytic or cluster analytic procedures. As with other factor analytic procedures, there is no single solution, and the quality of particular solutions are best judged in terms of interpretability.

The result of this computation is displayed in a two-dimensional spatial representation (see Figure 1 below). The user can set the percentage of terms on display; rotate the display to optimise the arrangement of terms, require that the software "learn" (i.e., recompute the distances between terms based on the outcomes of previous computations), and explore the family of associations with any one term, including their sources in the source text.

## Results

The five most frequently used terms included *life*, *years*, *online*, *Internet*, and *computer*. These terms, with the exception of *years*, clearly relate to the predominant interest of these nine U3A participants.

The illustration displays 100% of the terms retained in this analysis, rotated so that *home* and *Internet* form horizontal lines, which divide up pairs of right and left quadrants of terms.



**Figure 1.** Two-dimensional spatial representation of the proximity of terms frequently used by nine U3A participants in answering 11 questions about their on-line experiences.

There are several points of interest. First, when *home* and *Internet* are aligned as shown, *on-line* and *U3A* also cluster along the line demarcated by *home* and *Internet*, suggesting that, for these nine participants, *Internet*, *on-line*, and *U3A* were somewhat equivalent terms.

Terms in the lower left quadrant adjacent to *home* include *time*, *work*, *computers*, *find*, *read*, *day*, *lot*, and *back*. It is worth noting that the term *back* usually refers to returning to previous settings. In other analyses with more terms, *daily*, *routine*, and *management* have also appeared at this location. Terms in the upper left quadrant include *days*, *times*, *year*,

*wife, long, years, family, life, and friends*. In other analyses with more terms, *husband, health, local, and interests* have also appeared at this location.

One way of summarising these *home* related pools of terms is that the nine participants used that term in two related contexts, the lower left focussing on the more routine aspects and the upper left on the more personal aspects of home life.

The quadrants immediately above and below the term *Internet* are equally suggestive of related contexts. Terms in the lower right quadrant include *think, found, computer, information, interest, learning, and courses*. Terms in the upper right quadrant include *personal, people, email, group, and loneliness*. Other analyses have included *feel*.

One way of summarising the contrasting pools of items in Figure 1 is that the nine participants used the term *Internet* in two related contexts, the lower right focussing on the Internet in terms of intellectual life and the upper right focussing on the Internet in terms of emotional health, with the close grouping of *e-mail* and *loneliness* very suggestive of this differentiation.

In summary, the four quadrants of terms can be understood in terms of an aggregate discourse in which the term *home* serves to contrast the world of family and friends with the world of daily work, and the term *Internet* serves to contrast the world of learning and ideas with the world of feelings and emotions.

## Discussion

The outcomes of this follow-up study support and add to the Rowe and Kahn emphasis on the importance of remaining active by distinguishing four major contexts for describing that activity. Whereas other frameworks exist for analysing this discourse (e.g., an alternate analysis dissects the pool of terms by constructing a line through *computer* versus *life*, with *world* at the centre point of all four quadrants), the use of the key terms, *family* and *Internet* to delineate contexts seem particularly appropriate for these ageing on-line participants in U3A.

Importantly, despite the very different "literary" versus "nonselective" approaches to text analysis reported in the two studies, their outcomes are internally consistent in a number of ways. One consistency of particular interest is that references to ageing and ill-health, instead of contaminating talk about the world of learning and intellectual adventures offered by the Internet, are both relatively infrequent and confined to that part of the discourse that addresses the more immediate world of family and friends. Figure 1 illustrates this distinction graphically; these two aspects of participant talk are in the oppositionally situated upper left and lower right hand quadrants of this small group's mini-universe of terms.

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