All together now: factors that foster older adults’ feelings of independence

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**ALL TOGETHER NOW:**

**FACTORS THAT FOSTER OLDER ADULTS’ FEELINGS OF INDEPENDENCE**

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**Abstract:**

The combination of current demographic trends, which see people living longer and in better health, and the increasing ubiquity of technology in modern life has encouraged research into making technology useful and usable by older adults. Older adults’ relationship with technology has traditionally been pessimistically portrayed, but recent evidence suggests that older people want to be able to interact with new technologies in order to remain active and engaged with society. Older adults are keen to make their own choices and do things for themselves but there are tasks for which they often enlist the help of other people, regardless of their ability to perform them on their own. On the surface, this apparent paradox seems at odds with the essence of Inclusive Design, which has always been an advocate for independent living, particularly in later life. Yet maybe the problem lies with how ‘independence’ is defined – usually taken to mean a lack of reliance on others – and how it is actually perceived by the older population. Therefore, the aim of the study presented in this paper is to explore how older adults conceptualise independence, dependence and interdependence. Probe kits distributed to people over the age of 50 were used as a primary method, and were followed up with supporting semi-structured interviews. The probes were designed to enable participants to express themselves on various levels of creativity, generating rich material for design inspiration. Emerging results are presented here and their implications for the design of inclusive and desirable future products are discussed. Finally, the probe elements used in this study are reviewed as a method for collecting data from older adults.

**Keywords:** Inclusive Design, Older adults, Dependence, Independence, Interdependence, Probe kits
1. INTRODUCTION

Today's society sees a growing number of older adults making use of technology, with increasingly higher expectations of its benefits in their daily lives. As technology plays a progressively more important role in work, education, communication, entertainment and even healthcare, those with less experience of using technology run the risk of becoming disadvantaged and marginalized (Hiltz and Czaja, 2006).

Independence is one of the cornerstones of Inclusive Design and remaining independent is often listed as one of people's goals in later life. However, findings from a previous study established that, given the choice, older people often decide to involve other people in the various stages of interaction with new technology (Burrows et al., 2011). Surprisingly, this attitude was not always associated with ability: other people were often used as a confidence building mechanism for people who experience some degree of computer anxiety but are also keen to learn for themselves; another interesting reason given was that this early interaction with an unfamiliar device provided a good excuse to spend time with other people, illustrating how some products may provide social benefits. This hints at a discrepancy between the traditionally assumed definition of 'independence' and what actually makes people feel independent.

Despite its significant personal and social value, independence remains an ill-defined concept in the literature. As traditional assumptions from the Inclusive Design literature are being challenged and the concept of Inclusive Design evolves to address the ever-changing realities of today, it is important for researchers and designers to ask themselves whether they are fully catering for modern day wants and needs (Donahue and Gheerawo, 2009; Wilcox, 2009). Therefore, the main research question guiding the study herein described is: what factors influence older people's perceptions of independence, dependence and interdependence?

2. DEPENDENCE AND INDEPENDENCE: PERSPECTIVES FROM THE LITERATURE

For Keates and Clarkson (2003), independence is closely linked to a person's ability to perform key and instrumental activities of daily living (ADLs and IADLs) such as bathing, dressing, cooking, communicating with others and taking part in other aspects of communal life. Though the importance of being able to perform these activities cannot be disputed, this definition fails to address situations where people choose to involve others in their activities.

In a review of literature on the topic, Specker et al. (2003) confirm that independence is
predominantly characterized by an absence of dependence on others to perform daily activities. The implication of viewing independence and dependence as antonyms, and therefore as conflicting positions, is that a person must be either fully independent or completely dependent in every domain of their life. In reality, a person’s sense of independence often fluctuates and will be shaped over time according to individual perceptions and experiences.

It has also been suggested that society’s negative outlook on dependence and the resulting emphasis put on self-reliance appears to be strongly rooted in British and American ideology, and may not be valid for other cultures (Specker et al., 2003). This view is echoed by Wilcox (2009) who feels that researchers and designers might not be addressing the real life issues of today’s multilayered ageing society.

If independence were to be conceptualised solely in terms of personal ability to perform tasks, the change in abilities which people experience as they age would almost certainly doom them to a steady and unavoidable loss of independence. Moreover, this would mean that a person whose disability requires them to have assistance for certain tasks is denied the right to ever experience feelings of independence. But it seems that, for older adults, independence is tempered by choice and maintaining a meaningful social identity and role (Specker et al., 2003). This attitude towards independence is shared by people with disabilities, whose emphasis is not on the ability to do things unaided but rather on socio-psychological decision making (Reindal, 1999). Departing from the traditional dependence-independence dichotomy, and recognizing all human beings as vulnerable on some level, expands the definition of personal autonomy to incorporate interdependence.

Regarding the control that people have over their feelings of independence, Gignac and Cott (1998) identify four combinations of independence and dependence. Firstly, they suggest that individuals who do not need assistance and do not receive assistance are ‘independent’; situations of ‘imposed dependency’ occur when a person does not need assistance but receives it nonetheless; ‘not independent’ refers to individuals who need assistance but do not receive it; and finally, a person is ‘dependent’ when they receive necessary assistance. It is hypothesised that even though their model was developed for adults with chronic illness and physical disability, it may provide insights into the older population who experience a gradual and unpredictable change in their abilities over time.

According to this model, feelings of independence are affected by issues like the difficulty of the task and the nature of the relationship between the individual and the person providing assistance. These should not be mistaken for causes of dependency, which could include sudden disability or illness, personality, and social or cultural expectations.
An issue that arises is whether coping strategies, such as modifying the way in which a task is performed or reducing the amount of time spent on an activity, influence individual feelings of independence. Interestingly, Gignac and Cott (1998) found that the use of assistive devices may lead to feelings of increased dependency, despite the fact that the equipment enables certain tasks to be completed without relying on others. Contributing factors to this are feelings of resentment and loss of control, and the type of device which may be seen as stigmatising. Conversely, situations occur where a person who requires and receives help maintains their feelings of independence, such as a person who is unable to do housework and hires someone else to do it for them.

The role of two-way relationships in creating feelings of independence is further explored by Payling et al. (2003), who emphasise the importance of social networks and the sense of making a contribution to other people’s wellbeing. In study conducted within the i~design project among people with experience of disability or of caring for a person with disability, the researchers observe how even the slightest sense of give-and-take positively affected participants’ perception of independence. Furthermore, participants reported that the greatest barriers to independence were created by other people’s expectations and attitudes.

More recent research, looking at the social context in which older people interact, has reached similar findings. For example, participants in a study on how older adults cope with the difficulty of jar opening revealed that they use packaging as an excuse to engage socially with other people and to feel helpful (Yoxall et al., 2010). On a larger scale, the Networked Neighbourhood project in Berlin focuses on facilitating shared experiences through the use of Information and Communication Technologies (ICT), particularly among senior citizens (Gollner et al., 2010). This study identified a variety of neighbourhood services which were likely to be shared, ranging from the everyday, like transport or home repair, to more specialised ones like tutoring or computer repair.

3. METHODOLOGY

Issues pertaining to dependence and independence may be considered personal or sensitive, particularly among older people who are dealing with chronic illness, caring for a partner or who have been recently bereaved. Probe kits were adapted and used as the main method of data collection in this study. Haines et al. (2007) identify probes as an unobtrusive method to gain insight into people’s lives, since participants are in control of the data collection process.

First used in 1995 on the EU-funded Presence project, probes were specifically developed to be used with older people in order to explore their attitudes and feelings within their
communities in Italy and Holland (Hofmeester and Charon, 1995). Since being pioneered as ‘cultural probes’ by Gaver et al. (1999), tailored variations of this method, including ‘design probes’ (Mattelmaki, 2005) and ‘technology probes’ (Hutchinson et al., 2003), have been created. Typically, probe kits are packages of maps, postcards and other materials which invite and provoke participants to reflect on and express their experiences, feelings and attitudes (Gaver et al., 1999). These packages are usually sent or given to the participants, who take them home to use, and are then returned or collected by the researcher.

Whereas this method was originally intended as a mechanism to generate empathy and inspiration, and no attempts were made to formally analyse the data (Gaver et al., 1999), some authors advocate the need to interpret the returned materials to explain the data (e.g. Lucero et al., 2007). Mattelmaki (2005) warns that the collected data is often subjective and unfocused, and therefore best applied during the fuzzy front end of the design process. According to this author, four reasons exist for applying probe kits in the product development and concept design context: for inspiration, for information, for participation and for dialogue. The study described in this paper attempts to embrace all four of these motivations to some extent and, therefore, the probe kits have been designed accordingly.

[probe kit JPEG]

Figure 1. Contents of the probe kit used in this study

3.1 Materials

Experiences are by nature complex and holistic, and people’s ability to describe them is tainted by multi-layered, fragmented, individual and ephemeral factors (Visser, 2009). In order to gain a rich insight into participants’ views and experiences of independence and dependence, the design of the probes was guided by the four levels of creativity described by Sanders and Stappers (2008): *doing*, motivated by productivity; *adapting*, motivated by appropriation; *making*, motivated by asserting an ability or skill; and *creating*, motivated by inspiration.

However, one of the challenges that probes present is how to persuade people to express themselves creatively even when they do not view themselves as ‘creative’. Another key concern in this study was that the materials in the probe kit should not come across as overwhelming and put people off participating from the outset. This was achieved by having few, clearly labelled elements in the probe kit. A letter was also included in the packs, explaining what the study involved and making the point that there was no right or
wrong way to answer. Participants were encouraged to do as much as they felt comfortable with and use whatever means of expression they enjoyed (e.g. words, poems, collages, drawings).

The elements of the final probe kits are described in Table 1.

<table>
<thead>
<tr>
<th>Elements</th>
<th>Activities</th>
<th>Level of creativity</th>
</tr>
</thead>
<tbody>
<tr>
<td>[postcards JPEG]</td>
<td>TELL ME postcards: Directly ask participants what they associate with ‘dependence’ and ‘independence’</td>
<td>Doing</td>
</tr>
<tr>
<td>[social map JPEG]</td>
<td>Social Map: Identify what type of activities are likely to be shared with other people, and who these people are</td>
<td>Doing Adapting</td>
</tr>
<tr>
<td>[camera JPEG]</td>
<td>Camera: Intended to gather examples of activities that the participants like to do alone or with others, activities that they do differently now from when they were younger, activities that they used to do but don’t anymore, etc</td>
<td>Making Creating</td>
</tr>
<tr>
<td>[remember when JPEG]</td>
<td>REMEMBER WHEN sheets: Elicit rich examples of a time when they asked for help even though they didn’t need it, a time when they needed help but didn’t ask for it, and a time when they provided help to others</td>
<td>Creating</td>
</tr>
</tbody>
</table>

Table 1. Elements used in the probe kit for this study
3.2 Procedure

The probe kits were distributed to eight participants. The sample consisted of three male participants and five female participants, ranging from 50 to 83 years old.

A brief explanation of the study was given to each participant when they received their probe kit, but care was taken not to influence the outcome of the research in any way. Once the activities of the pack had been completed, the researcher arranged to collect the materials and follow up with a semi-structured interview to discuss the responses.

4. EMERGING RESULTS AND DISCUSSION

4.1 Seeing the dependence-independence spectrum

The TELL ME postcards firmly confirmed the view of Keates and Clarkson (2003) that being able to perform key and instrumental activities of daily living (ADLs and IADLs) is vital for an older person’s sense of independence. Other concepts mentioned with regards to ‘independence’ were freedom, choice, knowledge and accountability. The responses given in the postcards were mostly short and intuitive, though one participant wrote:

“(…) True independence is probably only possible in certain political regimes. However, few people are truly independent or even want to be. Most of us want responsibilities that tie us down and we would not want it otherwise. Few have the courage to be a completely free spirit.”

(P01, female)

In terms of dependence, responses were again divided between physical dependence (“needing someone’s help to do things”) and emotional dependence (“being unable to make the simplest of decisions without reassurance”). The subtle difference between actual need and perceived need were mentioned by one participant:

“Needing help with personal care: dressing, feeding, washing etc. Or perceiving such a need. Needing someone around for psychological/emotional support (‘I can't live without XXX’ when in fact you can, but don't want to). Or perceiving this need. Different from preferring to have someone else around. Basically ‘needing’.”

(P04, female)

Since the postcards were the first element of the probe kit (labelled nº1), they were designed to generate spontaneous responses to the topics of dependence and
independence. Overall, these results confirmed what was expected from the literature: that independence is usually seen as a lack of dependence on others (Specker et al., 2003). Nevertheless, most participants also acknowledged a more complex definition of ‘independence’ by referring psychological issues like power and choice.

The second element of the probe kits, the social map, revealed that all participants perform a number of activities in conjunction with one or more other people. The activities range from daily activities (cooking, shopping and banking) to less frequent activities (choosing a computer, setting up a computer and booking a holiday); these tasks were chosen because technology is involved in varying degrees. Of particular relevance to the theme of technology use by older adults, purchasing and setting up a computer was a task that most participants reported doing with strong involvement of others. Reasons for this included the fact that it was a decision that would affect more than one member of the household, the need for reassurance or more information, and that someone else would be more efficient at this task. But it was also mentioned as an excuse to spend time with a family or friend, which supports findings from a previous study (Burrows et al., 2011). The follow up interview revealed that, on the whole, the involvement of other people in these activities did not significantly encourage feelings of dependence.

The camera tasks produced some unexpected results. The probes were intentionally designed to avoid leading participants into the topic of technology because, even though technology use by older adults originally led to the need to conduct this study, it was felt that a meaningful understanding of the issues that surrounded dependence and independence superseded technology-related tasks. Yet the photo tasks “Take a photo of something that makes you feel dependent” and “Take a photo of something that makes you feel independent” both produced photos of technology, albeit for different participants. One male participant equated his computer at work with feelings of dependence, whereas a female participant took a photo of her mobile phone to indicate something she equated with independence. This could be related to their familiarity with technology but is naturally a result of what they use this technology for, in other words technology used as a chore (for work) and technology used to support lifestyle (for communication, leisure, etc). This example clearly illustrates the role of choice in determining feelings of dependence or independence.

At this time, analysis of the data is ongoing though some interesting themes have already emerged. Further analysis will determine what factors related to the social map and camera activities affect people’s sense of dependence or independence. The REMEMBER WHEN sheets have elicited rich examples and stories that will be used to generate personas and scenarios for a future study.
4.2 Critique of the method

All participants completed every element of the probe kit, but depth and mode of response varied between participants. For the TELL ME postcards and REMEMBER WHEN sheets, the most common mode of response was words. However, some participants used concept maps (TELL ME postcards), drawings and a poem (REMEMBER WHEN sheets).

The most problematic element of the probe kits was the disposable camera. A few participants had difficulty using the camera, as they had never used a disposable one before. The label on which to write the number of the photo corresponding to the elicited task was sometimes considered too small. Also, the numbering of the photos generated some confusion (“Is it the order in which I took the photos or the number on the camera display?”). A frequent solution to this was that participants wrote out a list of the elicited tasks along with a description of the corresponding photo. This proved to be a helpful strategy for the researcher when, due to the participants misuse of the camera (one participant) or problems developing the film, a few of the cameras produced unusable results. To overcome this problem, the researcher used the list as a guide to re-take the photos with a digital camera during the follow up interview.

The camera was the most time consuming element for the participants, particularly because they were keen to give each task plenty of thought. This meant that it was often returned separately from the other elements of the probe kit. The upside to this was that the photos produced were meaningful examples that might otherwise not have been communicated in an interview or survey. These photos were valuable prompts for discussion during the follow up interview, enabling the researcher to delve deeper into the issues and occasionally generating insightful life stories.

The social map produced interesting results and, contrary to what could be expected, participants had no difficulties completing this task. With regards to the four Ws regularly used for problem solving (Who, What, When, Why), the social map defined a priori the What by including a set list of activities. Participants would then identify Who else did these activities with or for them, creating their own labelling system using the coloured stickers provided. The follow up interview then used the finished maps to discuss When and Why these activities were likely to be performed with/by other people, further adding the question of How this affected the participants' feelings of dependence or independence.

As anticipated, the probe kits permitted more sensitive issues to be shared with the researcher. The REMEMBER WHEN sheets produced very personal stories relating, for
example, to bereavement or caring for a spouse with dementia. One participant used this tool not only as a means of storytelling, but also took the opportunity to reflect on these experiences by adding an observation entitled “Moral of this story”. For other participants, this type of more insightful narrative was obtained during the follow up interview.

In general, participants enjoyed the probe kits because they enabled them to share their experiences and feelings at their own pace. This method also allowed the participants to feel some control over questions of a personal nature. As a result, sensitive issues surfaced naturally which would probably not have occurred with face-to-face methods. The follow up interview was an important part of further investigating the complexity of these issues, as they pertain to the conceptualisation of dependence and independence.

5. CONCLUSIONS AND FURTHER WORK

In conclusion, probes are an effective way of eliciting information of a personal or sensitive nature. Allowing participants to express themselves through various levels of creativity can mean inconsistent results in terms of mode of response, which can in turn make analysis of the data more difficult. A good way to compensate for any misgivings and obtain deeper insights on the data collected with the probes is to follow up with a semi-structured interview, where the completed elements are used as prompts for discussion.

In terms of the focus of the study, dependence and independence are complex and multilayered concepts. Intuitively they are seen as opposites, where one cancels out the other, but this study has revealed that for some activities the participation of others does not affect one’s sense of independence. In fact, sharing certain activities can make the overall experience more pleasurable. These findings have strong implications for Inclusive Design. Through a better understanding of the nuances between a need for help and a desire for social contact, designers could create new products and services that foster social interaction and are, therefore, more desirable.

Further analysis of the data from this study is required in order to generate a model of dependence-independence for older adults. These results, together with data from a previous study, will inform the development of personas and scenarios to be used as prompts for focus groups with older adults. The purpose of these focus groups will be to validate this understanding of the contextual factors that particularly foster a feeling of dependence or independence for older adults, in particular with regards to the design of technology.
Acknowledgments:
The authors would especially like to thank the participants for sharing their time and insights, particularly with regards to issues of a very personal and sensitive nature.

References:
Donahue, S and Gheerawo, R. 2009. Inclusive design 2.0 - evolving the approach and meeting new challenges, Include 2009, 5-8 April 2009, Royal College of Art
Gaver, B, Dunne, T and Pacenti, E. 1999. Design: cultural probes. interactions, 6(1), 21-29
Haines, V, Mitchell, V, Cooper, C and Maguire, M. 2007. Probing user values in the home environment within a technology driven Smart Home project. Personal and Ubiquitous Computing, (11), 349-359
Hiltz, S R and Czaja, S J. 2006. Introduction to the special issue on information systems for an aging society. ACM Transactions on Computer-Human Interaction, 13(3), 309-312


Visser, F S. 2009. Bringing the everyday life of people into design, Technische Universiteit Delft
