

PERCEPTIONS OF OLDER AGE AND DIGITAL PARTICIPATION IN RURAL QUEENSLAND

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ABSTRACT Participation is thought to build and sustain individual and community resilience. What constitutes participation today significantly involves networked digital communications. With Australia's ageing population set to increase exponentially, and with a growing concentration of older people living outside of larger cities and towns, a need exists to address how participation in later life is understood and facilitated. Coupled with the need for regional communities to find relevant change processes that build resilience, this multidisciplinary paper highlights variations in perception about older people's digital abilities in regional Queensland. Following the general increase in appeal of digital devices to older people, defined here as those aged over 65, the paper suggests that how older people's digital connectedness progresses is foundationally influenced by the speculative, antithetical and potentially ambivalent perceptions of others. In doing so, we seek to understand rural connectedness in later life through a suite of literacies informing digital participation.

KEY WORDS: Perception, digital literacy, ageing, rural households

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1. INTRODUCTION

Recent statistical data shows that approximately one in seven Australians is over the age of 65, with those who are 70 years or older representing the fastest growing section of the regional population. It is also the case that a quarter of older Australians live in smaller cities and towns (ABS, 2013) and proportionally represent a higher percentage of those locations. Policy reform and attention has therefore been focused on the cost of infrastructure and services planning for an ageing Australia, particularly with regard to future economic demands in the provision of aged and health care services (Australian Government, Department of Health and Ageing, 2013). Less attention, however, has been paid to the social, cultural and educational differences of older Australians, with particular cultural sensitivities and persuasions often overlooked. In rural and remote regions of Australia, for example, access to appropriate health and community services has been identified as setting particular challenges, and socially inclusive recognition for older Australians has often assumed similarities rather than differences (AASW, 2013). Coupled with sector-based economic decline in Australia's regional communities over the last half century (Australian

Government, Productivity Commission, 2005), there is a need to address how existing and relatively cost-neutral community resources (e.g. people's social contributions, skills and knowledge bases) can effect ongoing cultural change, social and economic stimulation beyond 'crisis' narratives (Carter, *et al.*, 2008).

Older Australians can be said to represent largely untapped resources, bringing knowledge, skills, innovations and understandings about a range of technologies that they have developed over long periods of time. Such resources are yet to be solidly linked to new educational and resilience building initiatives that originate inside communities for wider community benefit (McDonald, 2014a). Ways to identify and link with digital practices, as older people perform them, have emerged in previous research which found that the abilities of older Australians to engage digitally is habitually misunderstood and overlooked. The often unexpected and indirect arrival of digital technologies in older people's lives correlatively inspires generative literacy practices which are not limited to 'digital literacies' alone and incorporate prior learning (McDonald, 2014b).

In this paper, we consider data and insights on perceptions about older people's digital participation from household perceptions about such participation, or its potential. Considerations are drawn from a cross sectional survey of quantitative and qualitative data about how and why households in the Western Downs Shire (WDS) of regional Queensland subscribe to Broadband Internet services. Data on perceptions of older people is clustered around three key themes, namely older people's *interest* in Broadband Internet, perceptions of their digital *skills* and of the *utility* of Broadband Internet in their lives.

Interpreting the survey results through the framework of perception considers the intimate communities of older regional Australians as instrumental in an older person's capacity to effect digital participation. We discuss this capacity through a suite of literacies associated with the quality of digital participation, and with how older people's lives can be informed by the perceptions of those immediately around them. The paper therefore engages a critique of regional practices as relational to metropolitan ideals, and calls for detailed and specific considerations of later life in regional contexts.

2. BACKGROUND AND METHODOLOGIES

The data discussed in this paper emerges from the broader doctoral research project of Sanjib Tiwari from the Australian Digital Futures Institute postgraduate program at the University of Southern Queensland. The doctoral research intersects with cultural research into digital technologies in the daily lives of older adults in regional Australia (McDonald, 2014a), and research into digital literacies and information seeking skills in rural contexts (Starasts, 2015). The purpose of all of these studies is to address the wider social and policy challenges of regional Australia's digital future, with, in this instance, a focus on the adoption and use of Broadband Internet in the Western Downs Region (WDR) of Queensland.

For the purposes of this research, Broadband Internet is defined as high-speed, always on, Internet connectivity, with a minimum download speed of 256 kbps and minimum upload speed of 64 kbps. Broadband Internet allows multiple tasks to be performed at the same time. For example, a user can download and upload data at the same time without delay. A household is defined as one or more people living in the same dwelling, that is, in shared accommodation. A household may consist of a single family or some other grouping of people (Tiwari, 2013).

The WDR was chosen as a viable case study site that is representative of regional Australia through a combination of land area, population growth, residents' education levels, and, for the purposes of this paper, an increase in the area's older population. Geographically, the WDR covers a land area of 38 039 square kilometres, making it one of the twenty largest districts in Queensland, and in the year to June 2013, the area showed a 1.7 per cent population growth increase with a recorded 33 494 people living in the region (ABS, 2013). The number of people aged above 65 is increasing in the region, and is now recorded at 13.6 per cent of the area's population (ABS, 2013). WDR residents are concentrated in the three towns of Dalby, Chinchilla and Miles, with the remaining population dispersed in a number of smaller towns and rural districts.

A large scale survey of 1 500 randomly selected households was conducted in the region to inquire into the *general* adoption and use of Broadband Internet, with respondents asked to specifically indicate their understanding of older people's relationships with Broadband Internet through these areas:

1. People over the age of 65 are, or are not, interested in Broadband Internet
2. Older people generally can, or cannot use, Broadband Internet
3. Broadband Internet would, or would not, be useful for people over the age of 65.

The survey responses offered a starting point from which to elucidate the differing interpretations of the writers as a multidisciplinary collaborative research group from areas as diverse as Cultural Studies, Information Systems, and Information Systems Research who drew on qualitative and quantitative understandings (Creswell, 2003). Ultimately, the surveys formed one facet of an interpretivist social research paradigm (Pachirat, 2015), with responses used to open dialogue about household perceptions of older people's digital engagements and participation. The emergent themes discussed below begin to articulate perceptions of older people's digital engagements, their interests and capabilities, and what is required to enable these.

3. EMERGENT THEMES

Three areas of perception are evident and reflect a measure of how others understand older people's digital practices, namely (1) their *interest* in Broadband Internet, (2) their digital *skills* and (3) the *utility* of Broadband Internet in their lives. As noted above, we sought to create dialogue around the extent to which household members perceived older people's digital engagements. Consistent with interpretive methods in social research (Denzin and Lincoln, 2011), the survey aimed to intersect with the perceived lived experiences of older people as household members understood them or speculated about them.

While the complex of directions made evident in a concurrent study concerned with older people's *productive* engagements with digital technologies is beyond the scope of this paper (see McDonald, 2014a), the three areas noted above can be said to encapsulate how such productive engagements may be progressed or disabled by the perceptions of others (see also Warburton *et al.*, 2012).

Findings

Considering older people's *interest* in Broadband Internet, approximately half of those surveyed were of the view that older people showed interest, with the remainder expressing the view that they did not. A similar result was articulated with reference to whether or not older people possess the *skills* to use Broadband Internet, but in response to whether or not Broadband Internet would be *useful* for older people, most respondents agreed that it would, with fewer suggesting the contrary. While perceptions about older people's interest and skills showed the maximum difference (~50/50), Broadband Internet was generally perceived to be useful for older people (Tiwari, 2013).

What might this data say, then, about perceptions of technology in later life, and how do such perceptions inform us about the overall interest, ability and wider utility of the digital era for older adults? Here, we can ask two interrelated questions: What makes digital participation possible for older people both conceptually and in practical terms? And how is such participation orchestrated by older people themselves and in their name by others? Foundationally, then, the paper continues with an outline of perception theory, its role in gauging current understandings of ageing and its potential for their reconsideration in regional contexts.

4. PERCEPTIONS OF OLDER AGE AND TECHNOLOGIES

The utility of perception in interpretivist research has roots in phenomenology. Phenomenology is an approach to the analysis of meaning production which focuses on the constitution of a person's 'inter-subjective' or everyday, world, from, putting it simply, their 'own perspective' (Schwandt, 2000). Masking a good degree of complexity about the notion of perception, this simple premise actually refers to how the world *appears* to individuals rather than how we make sense of it through meaning-making attempts. Such an appearance is organised through fundamentally two internal perceptive processes—what is intentional *toward*, and intelligible *about*, what we experience (Sparrow, 2007, after Merleau-Ponty, 1962). Intentionality is dependent on what is presented to us, that is, on what appears, and intelligibility enables meaningful understanding (Sparrow, 2007). As Tom Sparrow explains, "[p]erception, as intentional, is always perception-of, always the apprehension of a transcendent figure against a meaningful background. Phenomenologically, this feature of perception is, in a technical sense,

given ... [where] an always intelligible form stages our interaction with the world" (Sparrow, 2007: 103).

Perceptions are also thought to be sensory concerns, that is, perceptions are bodily and felt—embodied—giving onto experiential meanings of the world which are perhaps less esoteric and more externally engaged (Sparrow, 2007). In the case of the households survey about older people's digital participation, one can speculate that, how older people are perceived, that is, how older people *appear* to those who were surveyed, may be as a result of how they appear through broadly denotative means such as their representation in popular media or through language. Conversely, sentience, or felt experience, plays a part in how older people perceive themselves through the eyes of the rest of the world (MacMaster, 2012), and significant influence can also be drawn from the ways in which literacies emerge and can orchestrate an individual's engagement with the world around them (Wilson, 2000).

The point to focus on here, however, is that surveying household members *about* ageing and digital participation, rather than engaging directly with older people themselves, may reflect similarly emerging perceptions about ageing and technologies in the broader world. The maximum difference about older people's interest in, and skills with, Broadband Internet, for example, may also be read as showing a degree of ambivalence about older people's digital abilities. Such ambivalence may be taken as a site for further provocation, where alternate views about older people's digital participation are put forward in response to 'counter' potential negativity (see National Seniors Productive Ageing Centre, 2013).

Yet, by taking an indirect approach to understanding older people's encounters with technology through the perceptions of others, we also find common 'gateway' understandings that show the 'conditions of possibility,' or the social 'episteme' (Foucault, 1973), for digital participation in later life. Such conditions indicate what it is that enables or disables participation at the level of lived experience (see also Warburton *et al.*, 2013), and serve to monitor older people's abilities to participate. In this sense, conceptualisations of ageing are important indicators for the progress, or otherwise, of participation (Swinnen and Port, 2012; Edgar, 2013; Ryan, 2014).

It is also thought that the perceptions of older adults themselves about their own skills and abilities with technology may limit adoption (Lam and Lee, 2006). These perceptions have serious implications for their participation in family and societal communications which are enabled by

Broadband Internet. For older (and indeed all) adults, implications of this exist in relation to access to information and learning opportunities that will affect lifestyle in many aspects. These include quality of life (Morris, 2007), health and nutrition (Newman *et al.*, 2012; Choudrie *et al.*, 2013; Koch and Hagglund, 2009), social opportunities (Shapira *et al.*, 2007), democratic rights (Eastman and Iyer, 2005; Gould, 2004), and access to community assistance and benefits. Yet, a general lack of knowledge about older adults' technology-related needs (Koch and Hagglund, 2009) is limiting the development of services and tools.

With regard to older people's interactions with Broadband Internet, perceptions are also likely to be interwoven with how older people appear to others and what is known and felt about them in the broader world. Indeed, the complex and varied terms of ageing have been considered foundational to major social and economic challenges in 21st Century Australia (COTA, 2013). Similar assertions have been made in Europe about the growing complexity of societies, and recent figures tell us that approximately 20 per cent of Europeans will be over the age of 65 by 2025 (European Commission, 2015). Additionally, the new 'European Innovation Partnership on Active and Healthy Ageing' project is intent on extending average life expectancy by two years (European Commission, 2015). In the forthcoming section we focus on the qualities of such challenges. These challenges emerge through the notion of literacies, and through the relationship between varying modes of literacy as potentially generative of digital participation in later life (Cole and Pullen, 2010; Warburton *et al.*, 2012).

5. LITERACIES IN LATER LIFE

Broadly based evidence shows that socio-economic circumstances can be significantly improved through education initiatives that occur throughout a person's lifetime (OECD, 2014). With regard to Australia's ageing population, then, focusing on several differing aspects of older people's lives exposes a notion of 'digital literacies' which is not tied only to Information and Communications Technologies (ICTs). These literacies emerge from the processes of heterogeneous sense-making (Cole, 2013) and articulate fresh understandings of literate practices in later life. Such practices are drawn from a wide range of experiences throughout a person's lifetime which can continuously inform learning and knowledge creation in later life.

Literacy is a widely contested term (Turner, 2007), incorporating a range of dimensions and implications that have relevance for the

participation of older persons in regional society. We consider these as existing in largely two dimensions (after Wilson, 2000). The first literacy dimension relates to the autonomous nature of an individual, where an individual's abilities to act, learn and participate within society are implicated. The second literacy dimension occurs in creating and sustaining social environments and opportunities that allow participation in the significant discourses of our time. Many of these also have broader implications for society. Literacies and their intersections within society are discussed in relation to facilitating participation of older citizens through technology use.

Individual Literacies

In relation to their autonomous nature, literacies are strongly determined by time and place (Barton *et al.*, 2000) and potentially exist as a summation of an older person's past and current education, and life experiences and activities. They have significant implications in terms of an individual facilitating their own self-directed activities and learnings through digital access to networked resources and connections. Contexts (and literacies) associated with this are highly personalised, situated and experiential, and related to the individual's situation-specific complexities (Starasts, 2015). They can also be facilitated by social practices. Starasts (2015) highlights that all citizens must personalise both information content and process to produce relevant meanings, and advance their own learning agendas and pathways.

The competencies associated with this advancement might include managing information, communicating and collaborating, creating and sharing content, participating meaningfully, evaluating, problem solving and learning, being aware of ethics and responsibility, and technical skills (Ferrari, 2012; Ala-Mutka, 2011). The activities required to achieve these competencies could include understanding and communicating with photos, manipulating digital material to create new and meaningful materials, and constructing knowledge from non-linear navigation of hypermedia environments. Other associated activities include critical assessment of digital information, communicating effectively in online contexts, and processing and evaluating volumes of digital information simultaneously (Eshet, 2012).

Access to online information, networks and communities provides learning opportunities for older adults in terms of the provision of access to a diversity of knowledge (Ala-Mutka, 2010). For example, learning

opportunities exist in relation to managing health disorders (Newman and Frank, 2013; Rubinelli *et al.*, 2008), or sharing and developing knowledge around a particular topic (Ala-Mutka, 2010). Connectivity is considered to have the potential to improve access to services, banking, entertainment, as well as communications with family and friends (Kamel, *et al.*, 2009; Sourbati, 2009; Alm *et al.*, 2002). Sharing information (e.g. on social networking sites) is considered to contribute to positive relationship development through connecting individuals, which might otherwise be difficult (Steijn and Schouten, 2013), such as in regional or rural communities and within older populations.

Yet numerous studies have identified significantly lower use of ICT among older adults, although usage is rising (Dane *et al.*, 2013; Ewing and Thomas, 2012; Selwyn *et al.*, 2003). This particular societal group may miss out on important services and opportunities as organisations direct more of their efforts towards supporting digital, rather than traditional service delivery channels (in relation to health in Australia, see Baum *et al.*, 2012).

Lower competences among older adults in using digital technology are among the key reasons cited for lower use (Warburton *et al.*, 2013). Learning for many older individuals is situated, informal and self-directed, and this requires the development of literacies associated with use of digital technologies to support this learning. These processes of skill development are informal and personal and may often emanate from within a home base rather than from employment or education (Selwyn, 2005).

Literacies are positioned with respect to a person's family (Pitt, 2000) and are patterned by perceptions of roles (or powers) (Barton and Hamilton, 2000) and support (Tsatsou, 2011). These perceptions play a role in contributing to the environments within which new literacies are formed for older persons, and contribute to social, psychological, economic and pragmatic factors (Eshet, 2004) and resultant motivations (Sourbati, 2009; Tsatsou, 2011) and engagement with ICT.

Socio-Cultural Literacies

Individual literacies in an increasingly digital society have a relational and important community aspect in that they are positioned with respect to community institutions and facilitate the relations that sustain these institutions (Barton *et al.*, 2000). When literacies are 'in-synch' between individuals, they build communities (Tusting, 2000) and allow coordination of activities across a range of levels. Functions of literacies

for older people in regional communities, therefore, facilitate the definition and maintenance of their individual identities within regional communities and also the identity of the regional community itself. Literacies then, play a key role in ‘articulating the links’ between functions and meanings associated with everyday experiences of individuals, and those of communities as a whole (de Pourbaix, 2000). Manifestations of literacies associated with the use of digital technologies within communities therefore potentially empower both individuals and the community for greater connecting, collaborating and learning.

Participation

Technology has reorganised how we are expected to communicate and how we are expected to participate in society. Perceptions, and levels of participation in society through use of digital technologies, vary across communities and sectors (Eynon and Helsper, 2010). These authors consider the issue of non-participation as occurring through either choice or through exclusion. Choice is considered to be somewhat influenced by societal pressures, including family and others’ perceptions and experiences (e.g. see Selwyn, 2007), but some studies have largely shown that older adults often do not consider the internet a technology that is appropriate or relevant for themselves (Dutton *et al.*, 2009 in Eynon and Helsper, 2010; Selwyn, 2006). Often this leads to an environment of exclusion.

Developing digital literacies for participation in informal online networks and communities can provide learning opportunities that contribute to well-being, growth and development through socializing. It can facilitate collaborations and collective activities and outputs (Ala-Mutka, 2010). Enablers associated with this include the awareness of users, interest and suitable opportunities to participate, along with a perceived value and quality of participation. Ala-Mutka (2010) suggests that people must be willing and have the skills to communicate, listen, participate and collaborate in the digital environment. Along with a social and community culture that encourages interaction and a range of meaningful activities, learning as a core dimension of ageing can be supported. Literacies are therefore needed that allow participants to engage in *self-directed learning* by supporting participation and collaborative knowledge construction within these environments.

Literacies for participation in, and for the functioning of, complex societies have three important dimensions – those of the current context,

those of communications processes and intertextuality, and the resultant focus of these in discourses of community and society (Maybin, 2000). Narrow perceptions of what constitutes literacies by older adults, their families and their communities may limit older people's abilities to participate in a contemporary world, especially where literacy demands are continually changing (Pitt, 2000).

Regional Intensities and Generative Implications

Discussing the question of literacy as broadly lived and experienced in the lives of older regional Australians therefore challenges related misconceptions about older people's abilities with digital technologies, and proposes a complex and comprehensive engagement with the notion of multiple, or intensified, literacies (Masny and Cole, 2009). This conception of literacies as 'multiple' is inspired by thoughts from the philosopher Gilles Deleuze who emphasises certain features of ordinary life as continuously generative of new circumstances rather than as artefactual or categorical (see Cole, 2013). Applied to questions of literacy, such an understanding is "open and includes the contingent, anomalous or extraordinary" (Cole, 2013: 35).

Demonstrably, the abilities of older regional Australians to digitally engage and participate in society is habitually misunderstood and overlooked (Warbuton, 2012; McDonald, 2014a). A reconsideration of older people's literacies as 'multiple' practices offers broad conceptual scope with which individuals could identify and apply transformative forms of knowledge within an era disinclined to regard older people as able to develop, let alone mobilise, digitally literate ways of living (National Seniors Productive Ageing Centre, 2013).

Indeed, the interaction of literacies debates *with* the location of lived experience in the WDS may suggest that rural environments carry the weight of wider cultural logics that disguise rather than reveal specific locational differences. As David Carter *et al.* (2008) have articulated, rather than a specific area or location possessing inherent limitations, focusing on deficiencies alone merely indicates compliance with relational narratives of rural and regional crisis:

“[M]uch research on the cultural changes that are occurring in rural communities has been underpinned by metropolitan norms and systems of value, leading to the assumption that contemporary rural cultures are characterised primarily by limitation or lack. ... Rural research in Australia has focused largely on the analysis of

sociological or socio-economic issues which are generally cast as ‘problems’ of regional or national significance [and] ... the nature or notion of the culture(s) in play has not been elaborated with the kind of complexity ... [developed] in relation to urban populations.”

If it is true, then, that participation is thought to build and sustain individual and community resilience (Wilding, 2011), then it is also clear that resilience is a multi-dimensional concept which is subject to interpretation and change. Understandings of regionality which are drawn from the specificity and detail of regional people’s lives offer the ability to re-create the story of older people’s technology needs, their capabilities and limitations. Are there, for example, more situated pathways within regional communities (or households) for older people, which could be better articulated? What role might community members, households, and those in regional community organisations play in developing the digital participation of older adults beyond common perceptions? What constitutes this re-creation, therefore, is founded on our ability to engage, in complex ways, with the multiple dimensions of literacy and regionality. We continue by posing three implications for regional Australia which consolidate the need to take seriously perceptions of older people’s *interest*, *skills*, and *utility* toward Broadband Internet:

1. *Autonomous participation*

Multiple literacies inspire the identification of contingencies and ‘out of the ordinary’ experiences. In the context of regional Australia, what are the mechanisms for identifying and understanding chance negotiations of older people’s literacies? If, as the data has suggested, approximately half of those surveyed agreed that older people show ‘interest’ in Broadband Internet, and have the skills to use it, how might such a crucial set of competencies be constituted by older people and understood by others? We have discussed the notion of the autonomous nature of individuals and how the complex of older people’s experiences informs degrees of participation within society. If older people’s contingent literacies remain unidentified in regional contexts, their ability to be autonomous participants in society may be undeveloped.

2. *Digital social connectedness*

Approximately half of those surveyed perceived that older household members were not interested in Broadband Internet. While interests vary, were dialogues opened and appropriate interventions considered within households, such as encouraging older adults to participate in digital learning or leisure activities, this perception would be troubled. Coupled with the need to better identify the multiple forms which older people's literacies take, community organisations and local governments can play a crucial role in encouraging older people to venture beyond their current learning experiences. If perceptions such as these remain unchallenged in regional contexts, opportunities for lifelong learning and social connectedness can be reduced and may impact an older person's sense of wellbeing and quality of life.

3. *Utility in older age*

With most survey respondents agreeing that Broadband Internet would be useful for older people, rural communities require that current infrastructure limitations be addressed. Broadband Internet offers a significant way forward to maximise digital technology use to support personalised and social learning. Additionally, the pathway to this would involve enhancing digital and social cultures, literacies, skills and platforms to support people finding, connecting and communicating online. Identifying and understanding older people's multiple literacies is therefore the foundation for true participation in digital economies and communities.

6. CONCLUSION

This paper has sought to offer insights and open dialogue about perceptive potentials, literacy concepts and regional experiences which have influence on the progress of older people's digital participation. The building of regional resilience in rural areas such as the Western Downs Shire of rural Queensland involves altered perceptions of digital participation in later life which identify and define the range of literacies associated with digital engagement, as well as the pathways to attaining them.

It is perhaps the case, then, that a more viable proposition for older people's digital engagement and participation should be sought, one that

understands rural Australian experience as situationally-based, i.e. *specifically different* from, rather than relational to, metropolitan experience. In attending to the role of perceptions, both about older adults and those they make about themselves, this paper has brought forward multiple and textured articulations of digital engagement. It has identified the divergent nature of perceptions about the interests, skills and utilities associated with the presence of Broadband Internet in the lives of older regional Australians. In doing so, it has tied definitive positive perceptions of older people's digital literacy and engagement to more meaningful lives, and therefore considers this an appropriate basis for pursuing cultural change.

REFERENCES

- Ala-mutka, K. (2010). Learning in Informal Online Networks and Communities. European Commission Joint Research Centre, Institute for Prospective Technological Studies, OPOCE. Online version accessed 12 March 2015, <ftp://ftp.jrc.es/pub/EURdoc/EURdoc/JRC56310.pdf>
- Ala-Mutka, K. (2011). Mapping Digital Competence: Towards a Conceptual Understanding. Institute for Prospective Technological Studies. Online version access 15 January 2013, ftp://ftp.jrc.es/pub/EURdoc/JRC67075_TN.pdf
- Alm, N., Gregor, P. and Newell, A. F. (2002). Older People and Information Technology are Ideal Partners. Proceedings of the International Conference for Universal Design, November 2002, Yokohama, Japan.
- Australian Association of Social Workers (AASW). (2013). Ageing in Australia: AASW position paper. Online version accessed 20 December 2013, <http://www.aasw.asn.au/document/item/4356>
- Australian Bureau of Statistics (ABS) (2013). Where and How Do Australia's Older People Live? Reflecting a Nation: Stories from the 2011 Census. Online version accessed 12 August 2013, <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/2071.0main+features602012-2013>
- Australian Government, Department of Health and Ageing (2013). Living Longer: Living Better. Online version accessed 20 December 2013, <http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-aged-care-review-measures-living.htm>
- Australian Government, Productivity Commission (2005). Trends in Australian Agriculture. Online version accessed 10 September 2014, <http://www.pc.gov.au/research/completed/agriculture>
- Barton, D. and Hamilton, M. (2000). Literacy practices. *Situated literacies: Reading and writing in context*. In D. Barton, M. Hamilton and R. Ivanič (Eds) *Situated literacies: Reading and writing in context*. Routledge, London, pp. 7-15.
- Barton, D., Hamilton, M. and Ivanič, R. (Eds) (2000). Introduction. *Situated literacies: Reading and writing in context*. Routledge, London, pp. 1-6.

- Baum, F., Newman, L. and Biedrzycki, K. (2012). Vicious cycles: Digital Technologies and Determinants of Health in Australia. *Health Promotion International*, pp. 1-12. Online version advance access 9 November 2012, <http://heapro.oxfordjournals.org/content/early/2012/11/09/heapro>.
- Carter, D., Darian-Smith, K. and Gorman-Murray, A.W. (2008). Rural Cultural Studies: Introduction. *Australian Humanities Review*, 45. Online version accessed 12 June 2015, <http://www.australianhumanitiesreview.org/archive/Issue-November-2008/carter.html>
- Choudrie J., Ghinea G. and Songonuga V.N. (2013). Silver Surfers, e-government and the Digital Divide: An Exploratory Study of UK Local Authority Websites and Older Citizens. *Interacting with Computers*, 25, pp. 417-422. Online version advance access 12 March 2015, <http://iwc.oxfordjournals.org/>
- Cole, D. R. (2013). Deleuze and Narrative Investigation: The Multiple Literacies of Sudanese Families in Australia. *Literacy*, 47(1), pp. 35-41.
- Cole, D.R and Pullen, D.L. (2010). *Multiliteracies in Motion: Current Theory and Practice*. Routledge, USA and UK.
- Council on the Ageing (COTA) (NSW). (2013) *Liveable Communities Project Summary Report*, compiled by Jane Bringolf, COTA, Sydney, NSW.
- Creswell, J.W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (2nd Ed.). Sage, Thousand Oaks, CA.
- Dane, S.K., Mason, C.M. and O'Brien-McInally, B.A. (2013). *Household Internet Use in Australia: A Study in Regional Communities*. CSIRO Report: EP1310907. Online version accessed 12 February 2015, www.csiro.au/
- De Pourbaix, R. (2000). Emergent Literacy Practices in an Electronic Community. In D. Barton, M. Hamilton and R. Ivanič (Eds) *Situated Literacies: Reading and Writing in Context*. Routledge, London, pp. 125-148.
- Denzin, N.K. and Lincoln, Y.S. (2011). Introduction: Disciplining the Practice of Qualitative Research. In N.K. Denzin and Y.S. Lincoln (Eds) *The SAGE Handbook of Qualitative Research* (4th ed, pp. 1-6). Sage, Thousand Oaks, CA, pp. 1-6.
- Dutton, W., Helsper, E.J. and Gerber, M.M. (2009). *The 2009 OxIS Survey: The Internet in Britain*, Oxford University Press, Oxford.

- Eastman, J.K., and Iyer, R. (2005). The Impact of Cognitive Age on Internet Use of the Elderly: An Introduction to the Public Policy Implications. *International Journal of Consumer Studies*, 29(2), pp. 125-136.
- Eshet, Y. (2004). Digital Literacy: A Conceptual Framework for Survival Skills in the Digital Era. *Journal of Educational Multimedia and Hypermedia*, 13(1), pp. 93-106.
- Eshet, Y. (2012). Thinking in the Digital Era: A Revised Model for Digital Literacy. *Issues in Informing Science and Information Technology*, 9(2), pp. 267-276.
- European Commission (2015). Ageing. Online version accessed 27 February 2015, http://ec.europa.eu/health/ageing/policy/index_en.htm
- Ewing, S. and Thomas, J. (2012). *CCi Digital Futures 2012: The internet in Australia*. ARC Centre of Excellence for Creative Industries and Innovation. Swinburne Institute for Social Research, Swinburne University of Technology, Melbourne, Australia.
- Eynon, R., and Helsper, E. (2010). Adults Learning Online: Digital Choice and/or Digital Exclusion? *New Media and Society*, DOI:1461444810374789.
- Edgar, P. (2013). *In Praise of Ageing*. Text Publishing Company, Melbourne, VIC.
- Ferrari, A. (2012). Digital Competence in Practice: An Analysis of Frameworks. *Seville: JRC-IPTS*. Online version accessed 12 March 2015, http://jiscdesignstudio.pbworks.com/w/file/fetch/55823162/FinalCSReport_PDFPARAWEB.pdf
- Foucault, M. (1973). *The Order of Things: An Archaeology of the Human Sciences*. Vintage Books, New York.
- Gould, C. C. (2004). *Globalizing Democracy and Human Rights*, Cambridge University Press, Cambridge.
- Kamel Boulos, M.N., Lou, R.C., Anastasiou, A., Nugent, C.D., Alexandersson, J., Zimmermann, G., Cortes, U. and Casas, R. (2009). Connectivity for Healthcare and Well-Being Management: Examples from Six European Projects. *International Journal of Environmental Research and Public Health*, 6(7), pp. 1947-1971.
- Koch, S., and Hägglund, M. (2009). Health Informatics and the Delivery of Care to Older People. *Maturitas*, 63(3), pp. 195-199.
- Lam, J.C., and Lee, M.K. (2006). Digital Inclusiveness: Longitudinal Study of Internet Adoption by Older Adults. *Journal of Management Information Systems*, 22(4), pp. 177-206.

- MacMaster, M. (2012). Performing Mrs Whistler: Women, Image and Identity. In J. Dolan and E. Tincknell (Eds) *Aging Femininities: Troubling Representations*, Cambridge Scholars Publishing, Newcastle upon Tyne, pp. 43-52.
- Masney, D. and Cole, D.R. (2009). *Multiple Literacies Theory: Adeleuzian Perspective*. Sense Publishers.
- Maybin, J. (2000). Context, Intertextuality and Discourse. In D. Barton, M. Hamilton and R. Ivanič (Eds) *Situated literacies: Reading and writing in context*. Routledge, London, pp. 197-209.
- McDonald, L. (2014a). Discussing the Interest in Age, Vitality and Proximity in Dispersed Regional Communities. *The International Journal of Critical Cultural Studies*, 12(2), pp. 21-39. Online version accessed 20 February 20 2015, <http://ijhccs.cgpublisher.com/product/pub.247/prod.71>
- McDonald, L. (2014b). Circuitous Literacies in the Cultures of Regional Ageing. In M. Keppell, S. Reushle (Eds) *Proceedings of the Digital Rural Futures Conference*, University of Southern Queensland, Toowoomba, Queensland, p. 26.
- Merleau-Ponty, M. (1962). *The Phenomenology of Perception*, Routledge and Kegan Paul, London and New York.
- Morris, A. (2007). E-literacy and the Grey Digital Divide: A Review with Recommendations. *Journal of Information Literacy*, 2(3). Online version accessed 15 March 2015, <http://jil.lboro.ac.uk/ojs/index.php/JIL/article/view/RA-V1-I3-2007-2>
- National Seniors Australia Productive Ageing Centre. (2013). Older Australians and the Internet: Bridging the digital divide. Online version accessed 17 February 2015, <http://www.productiveageing.com.au/userfiles/file/Older%20Australians%20and%20the%20Internet%20-%20Low%20res.pdf>
- Newman, L. and Frank, O. (2013). The Rhetoric and Reality of e-health: A Critical Assessment of the Benefits of e-health in Primary Health Care. *Australian Journal of Primary Health* 19, pp. 265–269.

- Newman, L., Patel K. and Barton E. (2012). *The Impact of Traditional and Digital Communication on User Access to Rural Health Services. Report for Country Health SA's Falls Prevention Project*. Adelaide. Online version accessed 15 March 2015, <http://hdl.handle.net/2328/27192L>
- Organisation for Economic Co-operation and Development (OECD). (2014). Education Indicators in Focus. Online version accessed 17 January 2015, [http://www.oecd.org/education/skills-beyond-school/EDIF%202013--N%10%20\(eng\)--v9%20FINAL%20bis.pdf](http://www.oecd.org/education/skills-beyond-school/EDIF%202013--N%10%20(eng)--v9%20FINAL%20bis.pdf)
- Pachirat, T. (2015). We Call it a Grain of sSand: The Interpretive Orientation and a Human Social Science. In D. Yanow and P. Schwartz-Shea (Eds) *Interpretation and method: Empirical research methods and the interpretive turn*. Routledge, London and New York, pp. 426-432.
- Pitt, K. (2000). Family Literacy: A Pedagogy for the Future? In D. Barton, M. Hamilton and R. Ivanič (Eds) *Situated literacies: Reading and writing in context*. Routledge, London, pp. 108-124.
- Rubinelli, S., Schulz, P.J. and Vago, F. (2008). Designing and Evaluating Online Communities for Promoting Self-Management of Chronic Low Back Pain. *International Journal of Web Based Communities*, 4(1), pp. 80-97.
- Ryan, S. (2014). Australian Human Rights Commission: The Power of Oldness Campaign Launch. Online version accessed 17 January 2015, <https://www.humanrights.gov.au/news/speeches/power-oldness-campaign-launch>
- Schwandt, T.A. (2000). Three Epistemological Stances for Qualitative Inquiry: Interpretivism, hermenutics, and social construction. In N. K. Denzin and Y.S. Lincoln (Eds) *Handbook of Qualitative Research*, pp. 189- 213. Sage, Thousand Oaks, CA.
- Selwyn, N., Gorard, S., Furlong, J. and Madden, L. (2003). Older Adults' Use of Information and Communications Technology in Everyday Life. *Ageing and Society*, 23(05), pp. 561-582.
- Selwyn, N. (2004). The Information Aged: A Qualitative Study of Older Adults' Use of Information and Communications Technology. *Journal of Aging Studies*, 18(4), pp. 369-384.
- Selwyn, N. (2005). The Social Processes of Learning to Use Computers. *Social Science Computer Review*, 23(1), pp. 122-135.
- Selwyn, N. (2006). Digital Division or Digital Decision? A Study of Non-Users and Low-Users of Computers. *Poetics*, 34(4), pp. 273-292.

- Selwyn, N. (2007). E- Learning or She- Learning? Exploring Students' Gendered Perceptions of Education Technology. *British Journal of Educational Technology*, 38(4), pp. 744-746.
- Shapira, N., Barak, A. and Gal, I. (2007). Promoting Older Adults' Well-Being Through Internet Training and Use. *Aging & Mental Health*, 11(5), pp. 477-484.
- Sourbati, M. (2009). 'It Could be Useful But Not for Me at the Moment'. Older People, Internet Access and e-public Service Provision. *New Media and Society*. 11(7), pp. 1083-1100.
- Sparrow, T. (2007). Bodies in Transit: The Plastic Subject of Alphonso Lingis. *Janus Head*, 10(1), pp. 99-122.
- Starasts, A. (2015) Unearthing Farmers' Information Seeking Contexts – and Challenges in Digital, Local and Industry Environments. *Library and Information Science Research*, 37(2), pp. 156-163.
- Steijn, W.M. and Schouten, A.P. (2013). Information Sharing and Relationships on Social Networking Sites. *Cyberpsychology, Behaviour and Social Networking*, 16(8), pp. 582-587.
- Swinnen, L. and Port, C. (2012). Aging, narrative, and performance: Essays from the Humanities. *International Journal of Ageing and Later Life*, 7(2), pp. 9-15.
- Tiwari, S. (2013). Key Factors Determining Adoption of Broadband Internet by Households in Rural and Regional Australia: A Case Study of Western Downs Shire. *Survey Instrument*, University of Southern Queensland, Toowoomba, QLD.
- Tsatsou, P. (2011). Digital Divides Revisited: What is New About Divides and their Research? *Media, Culture and Society*, 33, pp. 317-331.
- Turner, G. (2007). Cultural Literacies, Critical Literacies, and the English School Curriculum in Australia. *International Journal of Cultural Studies*, 10(1), pp. 105-114.
- Tusting, K. (2000). The New Literacy Studies and Time: An Exploration. *Situated literacies: Reading and writing in context*, pp. 33-51.
- Warburton, J. Cowan, S. Winterton, R. and Hodgkin, S. (2013). Building Social Inclusion for Rural Older People Using Information and Communication Technologies: The Perspectives of Rural Practitioners. *Australian Social Work*. DOI: 10.1080/0312407X.2013.834064.

- Warburton, J. Cowan, S. and Bathgate, T. (2012). Building Social Capital Among Rural, Older Australians Through Information and Communication Technologies: A review article. *Australasian Journal on Ageing*, 32(1), pp. 8-14.
- Wilding, N. (2011). *Exploring community resilience in times of rapid change*. Fiery Spirits Community of Practice, Fife, UK.
- Wilson, A. (2000). There is No Escape from Third-Space Theory: Borderland Discourse and the 'In-Between' Literacies of Prisons. In D. Barton, M. Hamilton and R. Ivanič (Eds) *Situated literacies: Reading and writing in context*. Routledge, London, pp. 54-69.