THE FOURTH AGE:  
HUMAN INFORMATION BEHAVIOR  
AND  
SUCCESSFUL AGING  

A thesis submitted to Charles Sturt University for the degree of  
Doctor of Philosophy  

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The following list provides definitions for the abbreviations I employed in this study. The first time a phrase or term is used in a chapter, I provide it in full, followed by its abbreviation in parentheses, e.g., ‘library and information studies (LIS)’. After that, I use the abbreviation in the remainder of the chapter.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Name</th>
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<tbody>
<tr>
<td>ADL</td>
<td>Activities of daily living</td>
</tr>
<tr>
<td>ALA</td>
<td>American Library Association</td>
</tr>
<tr>
<td>ALF</td>
<td>Assisted living facility</td>
</tr>
<tr>
<td>AMD</td>
<td>Age-related macular degeneration</td>
</tr>
<tr>
<td>BPW</td>
<td>Business and Professional Women</td>
</tr>
<tr>
<td>CCRC</td>
<td>Continuing care retirement community</td>
</tr>
<tr>
<td>CEO</td>
<td>Chief executive officer</td>
</tr>
<tr>
<td>CIL</td>
<td>Community information literacy</td>
</tr>
<tr>
<td>DAR</td>
<td>Daughters of the American Revolution</td>
</tr>
<tr>
<td>DUV</td>
<td>Daughters of Union Veterans of the Civil War, 1861-1865</td>
</tr>
<tr>
<td>EBLIP</td>
<td>Evidence-based library and information practice</td>
</tr>
<tr>
<td>ELI</td>
<td>Everyday life information</td>
</tr>
<tr>
<td>ELIS</td>
<td>Everyday life information seeking</td>
</tr>
<tr>
<td>HIB</td>
<td>Human information behavior</td>
</tr>
<tr>
<td>HIPAA</td>
<td>US Healthcare Information Portability and Accountability Act of 1996</td>
</tr>
<tr>
<td>HUD</td>
<td>US Department of Housing and Urban Development</td>
</tr>
<tr>
<td>IIA</td>
<td>Incidental information acquisition</td>
</tr>
<tr>
<td>INDL</td>
<td>Information needs of daily living</td>
</tr>
<tr>
<td>ISIC</td>
<td>Information seeking in context</td>
</tr>
<tr>
<td>LIS</td>
<td>Library and information studies</td>
</tr>
<tr>
<td>LSIA</td>
<td>Life Satisfaction Index A</td>
</tr>
<tr>
<td>LSDT</td>
<td>Lifespan development theory</td>
</tr>
<tr>
<td>NIA</td>
<td>US National Institute of Aging</td>
</tr>
<tr>
<td>NORC</td>
<td>Naturally occurring retirement community</td>
</tr>
<tr>
<td>PIS</td>
<td>Purposeful information seeking</td>
</tr>
<tr>
<td>PLS</td>
<td>Primary lateral sclerosis</td>
</tr>
<tr>
<td>SHLTC</td>
<td>Seniors housing and long-term care</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<tr>
<td>--------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>SOC</td>
<td>Selectivity-Optimization-Compensation theory</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>US</td>
<td>United States of America</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
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CERTIFICATE OF AUTHORSHIP

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Charles Sturt University or any other educational institution, except where due acknowledgment is made in the thesis. Any contribution made to the research by colleagues with whom I have worked at Charles Sturt University or elsewhere during my candidature is fully acknowledged.

I agree that this thesis be accessible for the purpose of study and research in accordance with the normal conditions established by the Executive Director, Library Services or nominee, for the care, loan and reproduction of theses.

____________________________
Terryl M. Asla

May 6, 2013
Completing this thesis required several thousands of hours researching, observing, interviewing, analyzing data and, finally, sitting alone in front of the computer screen writing and revising the findings. I consider building a foundation of research to go beneath 30 years of experience in seniors housing and long-term care (SHLTC) as time well spent, as was the time I spent mastering a new discipline, library and information studies (LIS), so that I could look at my old field through fresh eyes. Most of all, it was time well spent thanks to the many friends I made along the way.

First, thanks should go to the residents, staff and management at The Midlands and Plaza Towers (not their real names) who welcomed me and agreed to be participants in my research. Likewise, I need to thank my friends and colleagues, Kayce Battles, Rita Pearce, Becky Funke, John Wells, Dr. and Mrs. Laszlo Stumpfhauser, the Rev. and Mrs. Bob Eades, Carolyn Noble, Dr. and Mrs. William Browning, Amy Hall, Tammy Flaming, Sharron Dillon, Faye McCoy and family, Janie Jones, Mickey Leiter and the Art Gallery Committee, Dr. Alta Brock, Penelope Whitten, Dorothy Koelling, Col. Boulton Miller (US Army, retired), Laurel Alkire, Dr. Edgar Moore, Elinor Amstutz, Helen Canzoneri and family, Dr. and Mrs. Ernest Crow, Dr. and Mrs. D. Cramer Reid, Connie Hubbell, Sylvia Muse, Ardie Davis, David Slack, John Grace, the Rev. and Mrs. Tom Wentz, and Valerie McGhee, for their years of friendship and encouragement. Some are gone now; none are forgotten.

I have attended, taught, and lectured at a large number of the leading colleges and universities in the United States and never encountered a university that can hold a candle to Charles Sturt University when it comes to its commitment to students and academic excellence. Leadership establishes the values of any organization, and my hat is off to Dr. Brian Hemmings, Sub-Dean of Graduate Studies, for his many efforts on my behalf, and his faith in the importance of my thesis topic. Praise also needs to be heaped upon Lisa McLean, Research and Graduate Studies Officer and ukulele player extraordinaire. I could never have navigated the Australian educational system without her help. She was the daily, smiling ‘face’ of Charles Sturt University.
Thanks also need to go to my two associate supervisors: Dr. John Mills (retired) who started the task of helping shepherd this thesis to its conclusion, and Dr. Heidi Julien, Director of the School of Library and Information Studies at The University of Alabama, US, who is finishing the shepherding task. Having a world-class scholar like Dr. Julien agree to read my thesis and offer feedback is an immense honor, indeed.

My greatest thanks, however, must be reserved for my supervisor, Dr. Kirsty Williamson, who is arguably the world’s leading LIS expert on aging and, quite literally, has ‘written the book’ on LIS research methods. Over the many years it took to complete this thesis, she never lost faith in its ultimate value or in me and, in my darkest hours, encouraged me to continue and finish. I should like to think we learned from one another; Kirsty and I have authored three age-related articles together, one of which, ‘Information Behavior of People in the Fourth Age: Implications for the Conceptualization of Information Literacy’ (Williamson & Asla, 2009), is listed among “the most cited [Library & Information Science Research] articles published since 2008”. There is an old truism that says it doesn’t matter so much what your thesis is about as long as you have a lioness for a supervisor. Well, Kirsty is a lioness, as well as being a superb academic, an incredible and patient teacher . . . and a lovely friend.

Finally, I have to thank my beloved wife, Mary Eileen, our children, Anthony and Colleen, and our grandchildren, Emma, Margo, Max, Mike and Teagan Marie. They have endured years of me locking myself away to write instead of spending time with them. That lost family time can never be reclaimed. Should they ever decide to read this completed thesis, I can only hope they will feel it was worth the sacrifice.
FINANCIAL SUPPORT

This study was largely self-funded. The Midlands retirement community (not its real name) had an educational fund that helped cover the cost of books and supplies for one year. Additionally, the resident-sponsored scholarship fund helped pay for three semesters of tuition and helped pay for my 2006 trip to Charles Sturt University in Australia. Additionally, I received a cash award from the School of Information Studies, Charles Sturt University, for the ‘Best Paper’ published in 2009 (awarded 2010). The article, which is discussed below in ‘Publications arising from the present study’ was jointly authored with my Supervisor, Dr Kirsty Williamson.
INTELLECTUAL PROPERTY RIGHTS

If there is material in the thesis that could or does have implications for the intellectual property rights of the candidate, the University, a sponsor of the research or some other person or body, those implications shall be stated.

ETHICS APPROVAL

The proposal to do this research was approved by the Charles Sturt University Ethics in Human Research Committee as protocol number 2004/098. The approved ethics forms may be found in Appendix A.
PROFESSIONAL EDITORIAL ASSISTANCE

Just prior to submitting this thesis, I had a professional editor, Penelope Whitten, review it. Her comments were limited to helping ensure my thesis was free of typographical errors, consistently employed the proper formatting and grammar, and that the references followed the APA-style requirements.
ABSTRACT

The United States (US) is on the cusp of an unprecedented economic and cultural challenge: by 2050, older adults will account for over one-fifth of this country’s population. In some 60 other countries, the percentages will be even higher. Some have suggested that better information and technology could help this growing older population age more successfully, even into the final stage of life, i.e., the ‘Fourth Age’. Until now, however, research regarding this claim was largely lacking.

Thus this study makes an original contribution to library and information studies (LIS) by examining how the physical, cognitive and social losses in the Fourth Age impacted the participants’ human information behavior (HIB), the relationship between their HIB and sense of aging successfully, and the ecological factors that promoted or inhibited those relationships. Additionally, an extensive literature review provides future researchers with a map of the gerontological landscape and where existing LIS theories and models of aging lie within it. Lastly, the study demonstrates that the Fourth Age classification system is often superior to calendar age when it comes to identifying a homogeneous group of ‘old’ participants—a fundamental concern in developing a meaningful body of research and theory.

This two-year qualitative study adopted an interpretivist/constructivist framework and employed an ethnographic method to explore the HIB of residents in two independent living retirement communities located in the Midwestern US. The method consisted of semi-structured interviews with 25 participants selected using a variant of purposive sampling known as criterion sampling. Purposive selection is widely accepted in the research community for the kind of research I undertook (e.g., Patton, 2002; Johnson, Dunlap & Benoit, 2010). Outliers in the Third Age as well as in the extreme Fourth Age were included in the sample as a means of exploring the Fourth Age continuum. For purposes of triangulation, the interviews included a short, well-validated quantitative instrument to measure the participants’ sense of successful aging. The data from the transcribed interviews and observation notes were then analyzed and separated into five themes and 18 categories.
A key negative finding that emerged from the study was that information literacy skills diminish during the Fourth Age. Growing physical and cognitive losses make it increasingly difficult for members of the Fourth Age to use the technologies, such as computers and the Internet, that society is increasingly reliant upon to meet the information needs of everyone, including older adults. A key positive finding was that many of the participants were able to prolong existing information literacy skills given the proper motivation and support. This strategy for successful aging is described as ‘compression of information illiteracy’ in this study.

One of the two retirement communities did well in assisting people to maintain information literacy; the other was less successful. The directors of the more successful community used five main strategies for promoting successful aging. These were: (1) encouraging residents to optimize existing information skills by tailoring activities and programs to their favorite pursuits; (2) fostering a ‘happy’ culture, rich in positive affective information; (3) providing proxy information seekers and other support services to help residents compensate for information-related physical, cognitive and social losses; (4) constantly working to improve communications amongst management, staff, residents and residents’ families; and (5) using information grounds as a means of sharing timely, accurate information.
PUBLICATIONS ARISING FROM THE PRESENT STUDY

Three collaborative publications resulted from early work on the present study:


  
  o Received 2010 Charles Sturt University Award for Outstanding Research Publication.


CHAPTER 1: INTRODUCTION

This thesis reports on a two-year field investigation into the role human information behavior\(^1\) (HIB) played in the successful aging of 25 participants who were members of the Fourth Age, that time in life that has been referred to as ‘the disability zone’ (Lamdin & Fugate 1997, p. 31). The field sites were two independent living retirement communities located in a mid-sized city in the Midwestern United States (US).

The study appears at a watershed moment, coming as it does at a time when we teeter on the brink of an unprecedented shift in the makeup of the world’s population. Over the next 40 years, a large percentage of the world’s population will become ‘old’; a crisis largely attributable to the huge size of the baby boom generation and the subsequent collapse in global birth rates (discussed below).

Despite the obvious need to study the information needs, sources and processes of older adults, a review of the library and information science (LIS) research literature found only a few researchers had usefully examined the HIB of these aging populations. Asla, Williamson & Mills (2006) and Williamson & Asla (2009) suggested this was due, in no small part, to LIS researchers’ limited knowledge of gerontological research in general and successful aging research in particular. An extensive review of the gerontological research literature suggested a similar ignorance exists among gerontologists with respect to HIB age-related research. A major aim of this study was to begin bridging that knowledge gap by exploring the role information played in the daily lives of some of the frailest members of society (those in the Fourth Age) and by examining the relationship between their HIB and their perceptions of themselves as aging successfully.

\(^1\) This study was done in the United States (US) and ‘American English’ spelling was adopted for the main text. ‘British English’ spelling was preserved when it appeared in citations and quotations. British conventions were followed with regard to elements of style.
This chapter serves as an introduction to the background issues that informed the study. These issues included retirement communities, the Fourth Age, successful aging, HIB in the Fourth Age, and the as-yet-unproven promise of the Internet.

1.1 The Fourth Age
When setting out to study the HIB of old persons, we should first ask ourselves “Just who are the ‘old’?” A review of the journal literature revealed that almost all previous LIS researchers on aging employed calendar age as their means of classification (e.g., Todd, 1984; Chatman, 1991, 1992; Jones, Morris, Morrow, Ries & Wekstein, 1992; Tinker, McCreadie, & Salvage, 1993; Goodman, 1992; Cavanah & Williams, 1994; Hales-Mabry, 1995; Varley, 1995; Williamson, 1995, 1997, 1998; Su & Conway, 1995; Swindell & Mayhew, 1996; Sit, 1998; Kubeck, Miller-Albrecht & Murphy, 1999; Wicks, 1999, 2001, 2003, 2004; Merrell, 2001; Freil, Kabir, Noronha & Osborne, 2011; Niemelä, Huotari & Kortelainen, 2012). Nor were they alone in employing this definition. No less an authority than the World Health Organization (WHO) has acknowledged that the calendar age of 65 years remains the accepted definition of ‘old’ in most developed nations (WHO, 2007). However, that same article went on to note:

Although there are commonly used definitions of old age, there is no general agreement on the age at which a person becomes old. The common use of a calendar age to mark the threshold of old age assumes equivalence with biological age, yet at the same time, it is generally accepted that these two are not necessarily synonymous (WHO, 2007).

Indeed, “the concept of old age itself is undergoing constant redefinition”, according to the late Robert Butler, MD (2008, p. 15).

As the founding director of the US National Institute on Aging (NIA), in the 1970s Butler was a leading proponent of the view that calendar age 65 marked the beginning of old age. But by 2008, Butler (who by then was in his 80s himself) dismissed any definition based on calendar age, stating categorically: “there is nothing magical or scientific about [65] . . . or any other number in defining old age” (p. 13). Nor was he alone in revising his opinion. Among researchers in the social sciences, there was a growing conviction that employing calendar age to identify ‘elderly’ or ‘old’ participants often led to findings that obscured the diversity of an age group that
spanned more than 40 years of life (Kinsella & Velkoff, 2001). Friedrich (2001) went so far as to suggest calendar age be reduced to a dependent variable in age-related research.

Consequently, researchers in the fields of sociology and psychology have proposed a new classification system for defining ‘old’. They divide the human lifespan into four ages by adding a new age, ‘Retirement’, to the traditional three ages of life (Laslett, 1991). Thus, the Fourth Age now becomes “the stage once called ‘old age’” (Lamdin & Fugate 1997, p. 31). Of greatest importance to researchers, these ‘old’ are identified by specific, measurable losses in bio-cultural abilities (see Friedrich, 2001; Baltes and Smith, 2003). By employing the Fourth Age criteria, researchers are at last assured of studying a homogeneous group of individuals approaching the end of life. A more complete description of the evolution of Four Ages theory and the efficacy of the Fourth Age when compared to calendar age is provided below. (See Chapter 2, Section 2.4.2.)

Finally, it should be noted that the Four Ages (e.g., ‘Third Age’, ‘Fourth Age’) are capitalized by some authors, but not by others. Indeed, I did not capitalize them in an earlier report involving the present study (Williamson & Asla, 2009). In this thesis, I have chosen to capitalize them as I now believe this additional emphasis more accurately reflects their importance to the future of LIS aging studies.

1.2 US retirement communities

At the beginning of the 21st century, Laposa and Singer (1999a, 1999b) estimated there were over 40,000 seniors housing and long-term care (SHLTC) facilities in the US alone. While all of these age-segregated congregate living facilities serve the older population, to suggest they are all alike would be as wildly inaccurate as saying that all people aged 65 and older “conveniently fit into one monolithic group” (Wicks 1999, p. 424). Services and programs vary widely, ranging from simple apartment complexes to continuing care retirement communities (CCRCs) that are small towns and offer a wide range of accommodations and services.

As did Chatman (1991, 1992), I focused on participants residing in ‘independent living’ retirement communities. (The different types of retirement communities are described in the next chapter.) There was one significant difference between this study and Chatman’s: her retirement community, Garden Towers, did not have a nursing home
while I chose one field site that did and one that did not. My decision was based on a desire to test Chatman’s HIB finding that her retirement community residents concealed personal health information from their family members and others for fear of being sent away to a nursing home if the time ever came that they needed skilled nursing care.

1.3 Successful aging
When educator Robert Havighurst (1961, 1963) introduced the concept of successful aging, it captured the US public’s imagination. Since that time, motivated by the baby boomers’ fear of aging, fueled by siren promises of the multi-billion dollar anti-aging health and beauty industries, and enforced by a society that worships only youth and success, the concept of successful aging has metastasized into the belief that getting old is somehow un-American (Scannell, 2006). This most certainly was not Havighurst’s original intent.

Reacting to the popular and academic literatures of the time that focused on the problems that accompany old age, Havighurst (1961, 1963) urged exploring the potentially positive aspects of aging (i.e., those over which older individuals retained some measure of control). He defined ‘successfully aging’ as individuals who were satisfied with their earlier life choices and their present situations, and who had a continuing zest for life and a positive outlook towards the future. In preparing for this study, I was particularly intrigued by the latter. I speculated that participants who displayed a continuing zest for life would have more interests and, therefore, would have more information needs and exhibit more information-seeking behaviors. What remained to be seen was what impact living in a retirement community would have on all this.

1.4 HIB and the Fourth Age
This section briefly touches upon the principal components of HIB that relate to this study. These include: the definition of information used in the study; the definition of HIB; the importance of context in everyday life information seeking; changes in the information needs of older adults; the relative importance of purposeful information seeking (PIS) and incidental information acquisition (IIA); the sources of information of relevance; the possible connection between information literacy and successful aging; and the unproven promise of the Internet.
1.4.1 Defining ‘information’

Books have been written describing and defining the term ‘information’. In his best-seller, *The Information: A History, A Theory, A Flood*, James Gleick (2011) devoted more than 500 pages to the subject. This user-centered study set out to explore the shrinking, cloistered lives of retirement community residents who were members of the Fourth Age. Therefore, I narrowly defined ‘information’ as ‘that which the embodied mind of the retirement community resident recognizes as important’—a definition reflective of the epigram, “information is a difference that makes a difference” that is often attributed to the English anthropologist, Gregory Bateson (Sloman, 2011, p. 1). My definition did not set out to challenge the notion that information exists outside of the individual; it merely clarified the aspect of ‘information’ that was under investigation in this study. It also emphasized the two factors most likely to impact the HIB of those residents: the failing bodies that housed those minds and the small world of the retirement community.

1.4.2 Defining ‘HIB’

As the study of individuals’ information needs, sources and information-seeking processes has developed over the past 20 years, what this sub-discipline of LIS should be called, and what it should encompass, have become matters of some debate (see Chapter 2). Building upon the definition provided by Fisher, Naumer, Durrance, Stromski and Christiansen (2005, p. xix), I have adopted the following description of HIB for this study: “how people in the Fourth Age need, seek, manage, give and use information in the context of a retirement community”.

1.4.3 Information literacy

In the Fourth Age, information needs decline. Physical, cognitive and social losses multiply, often hindering or even preventing information-seeking behaviors as well as limiting access to information sources. These same losses also limit the individual’s ability to manage, give or use information. Within the context of the retirement community, individuals become ever-more cloistered, often leading to a decline in information literacy. The conceptual overlap between information seeking and information literacy is now beginning to be addressed in the literature by researchers like Julien and Williamson (2011) and Williamson and Asla (2009). The latter article
expressly discusses information literacy in the Fourth Age. Again, this will be discussed in more detail in later chapters.

1.4.4 Information seeking in everyday life
This study, like the earlier investigations of Williamson (1995, 1997, 1998), Chatman (1991, 1992) and Wicks (1999, 2001, 2004), examines the HIB of older adults within the context of their everyday life information seeking (ELIS). My study differs most significantly from those earlier works by offering a more focused, empirical definition of the population under investigation, i.e., the Fourth Age.

1.4.5 Information needs of older people
Williamson (1995, 1997, 1998) divided her 202 respondents into age groups. Consequently, she noted that the number of information needs appeared to decline with age. Williamson concluded that health, income and finance, consumer issues and pharmaceuticals were the main information needs of the ‘Very Old’ (participants aged 85 years and older).

Wicks’ (1999) study involved 15 participants, aged 57 to 95, living in two retirement communities located in Nova Scotia. He did not discriminate by age, but did note that his participants’ information-seeking abilities differed widely, depending upon their health. The key information needs he identified were related to residence activities, book selection, financial information, travel information, medical information, and church activities (p. 426).

In her study of 55 single women of ‘advanced age’ living in a southern US retirement community, Chatman (1991, 1992) also did not distinguish among age groups, noting only that the average age was 82. Like Williamson and Wicks, Chatman found that her participants had significant cognitive needs in such areas as health, financial problems, and general news about activities in which one could get involved. In addition, she also identified six affective or emotional, information needs. Indeed, she concluded that a positive emotional attitude was one of the most powerful predictors of successful aging. A year earlier, Fredrickson & Carstensen (1990) had arrived at a similar conclusion: older people shape their social networks to achieve positive emotional satisfaction, whereas younger persons select their networks to meet instrumental needs, such as
professional advancement. Since that time, other LIS researchers and theorists have also begun to explore the importance of affective information (e.g., Nahl & Tenopir, 1996; Nahl, 2005a, 2005b). One goal of my study was to investigate the importance of positive affective information in participants’ sense of successful aging.

1.4.6 Purposeful and incidental acquisition of information
Most LIS research has focused on the behaviors of individuals engaged in purposefully seeking information in order to alleviate a perceived ‘gap’ in knowledge (Dervin & Nilan, 1986), ‘an anomalous state of knowledge’ (Belkin, 1978) or ‘a state of uncertainty’ (Krikelas, 1983; Kuhlthau, 1993). As already mentioned, Williamson (1995, 1997, 1998) called such behavior ‘purposeful information seeking’ (PIS). Based on her research, Williamson (1995, 1997, 1998) concluded that PIS declined among the ‘very old’ along with their information needs. However, she found that all of her participants monitored the world for relevant information. Furthermore, it appeared that her participants were not always conscious of information needs. Sometimes they recognized information was significant only after they had encountered it. Her participants recognized relevant information only after they had stumbled upon it. She termed such information behavior ‘incidental information acquisition’ (IIA). Other LIS researchers have also explored this concept, including Erdelez (2005) and Savolainen (1995). More recently, Bates (2002b) also argued that “it is not unreasonable to guess that we absorb perhaps 80% of all our knowledge through simply being aware, being conscious and sentient in our social context and physical environment” (p. 4).

1.4.7 Information sources in the context of the Fourth Age
The present study examined participants’ primary sources of information, revisiting the use of media, books and professionals as previously researched by Chatman (1991, 1992), Williamson (1995, 1997, 1998), and others. In addition, I sought to explore the participants’ evolving social networks, the use of employees as information sources, and factors impacting the use of computers and the Internet.

Chatman (1991, 1992) and Williamson (1995, 1997, 1998) both recognized the importance of social networks in the ELIS of older adults, and especially the role of friends. Building on this, the present study explored the importance of having friends living already in residence when it came to choosing a retirement community. Equally
important was investigating whether or not participants made new friends or acquaintances at the retirement community and, if so, what roles they played as information sources.

In the LIS literature, the role of staff members as trusted information sources is inconclusive. Wicks (2004) found the staff members at his two retirement communities were viewed as valuable sources of information. However, Chatman (1992) reported quite the opposite to be the case at her retirement community. In an effort to build on these earlier works, I examined the participants’ interactions with staff members at both of my field sites.

Further, neither Chatman nor Williamson made reference to information grounds as that concept antedates their aforementioned studies. However, the concept that information sharing may be a natural by-product when people gather for other purposes (see, e.g., Fisher, Durance & Hinton, 2004), dovetails neatly with Williamson’s (1995, 1997, 1998) earlier observation that older people are more likely to acquire information incidentally in their daily lives rather than to purposefully seek it out. Therefore, I viewed the presence of information grounds (or the lack thereof) within the two retirement communities as being potentially significant and worthy of investigation.

Popular acceptance of the Internet also antedates Chatman’s and Williamson’s studies. Since that time, using the Internet to help older adults maintain their social networks and to more easily seek and share information has been of growing interest to LIS researchers (e.g., Merrell, 2001; Xie & Bugg, 2009). However, most of these studies treated all older persons as if they were a monolithic, homogeneous group, even though participants might range from age 50 to well over 80. These were also studies of short duration. Consequently, they could not explore what impact the growing cognitive and physical losses of the Fourth Age might have on their participants’ continuing abilities to use computers and the Internet. Therefore, an important part of my two-year study was looking for any changes in the participants’ Internet and computer usage and attempting to identify the major cause(s).
1.5 Significance of the research
The world as we know it is on the cusp of a never-before-experienced paradigm shift; one for which we are ill-prepared in terms of research (Butler, 2008, pp. xi-xiii). The populations of some 61 countries around the world are in decline even as their older populations increase (Hewitt, 2003, p. 4). The US Census Bureau (2010) projects that the number of citizens aged 65 and older will grow to 21 percent of the US population by mid-century—and the US is one of the younger nations in terms of its percentage of older people. Indeed, “Japan and all of Europe are aging so rapidly that they are on course to significantly depopulate” (Hewitt, 2003, p. 4). Nor is this solely a matter of concern for developed nations. By 2030, the number of persons aged 65 and older in developing countries will be twice that of developed countries (Kinsella & Velkoff, 2001).

In the US, the portion of the population aged 85 years and older will see the most dramatic increases. With the aging of the baby boom generation, the US Census Bureau (2002, p. v) has estimated that this age group will more than double to seven million people by 2020 and grow to between 19 and 27 million by 2050. All of this group will either be in, or nearing, the Fourth Age.

As noted earlier, a significant percentage of those in the Fourth Age will live in one of about 40,000 SHLTC facilities in the US (Laposa & Singer 1999a, 1999b). Sheer numbers alone make these age-segregated living facilities and their residents worthy of study. To date, however, LIS researchers have largely overlooked this hitherto small portion of the population.

One solution to meeting the information needs of this population is the Internet. Government and industry are investing billions in new information technologies—and especially the Internet—based on the unproven premise older adults will be able to use them (e.g., Dickinson & Gregor, 2006). Unfortunately, society lacks a clear understanding of all the factors—generational, social, cognitive and physiological—that may limit the continued use of information technologies by members of the Fourth Age.

In an attempt to shed light on what I see as a matter of major concern, this two-year study looked at what impact losses in the Fourth Age had on participants’ abilities to continue using their computers and the Internet.
Given the significance of this concern I felt it was essential that at least one-half of my sample (≥50 percent) be either active computer/Internet users or have recently used computers or the Internet.

Finally, there are compelling moral, practical and personal reasons why studies such as this are important. If we hold to the humanitarian principle that all people are created equal, then we are morally obligated to render aid to this population. Given that a disproportionate share of health care dollars is expended on end-of-life care (Luce & Rubenfeld, 2002) and that information-seeking abilities are most apt to decline along with quality of life in the Fourth Age, we should be practically motivated to find ways not only to help to compress morbidity and but also to compress information illiteracy in the Fourth Age: (1) by assuring that needed information is available; (2) by understanding the relationship between HIB and continued successful aging; (3) by better understanding the health and ecological factors that promote or inhibit the continuing exchange of information; and (4) by helping assure that technologies such as the Internet take into consideration the growing physical, cognitive and social limitations of individuals in the Fourth Age.

Last but not least, each of us has a personal stake in these efforts. If we are lucky, we may all live long, satisfying lives and eventually grow old. When that time comes, the world we live in will be the world we are helping build today.

1.6 My background in relation to the study

From the time I was a baby until I graduated from university, I grew up around nursing homes. Indeed, for a time I literally lived in one. My grandmother owned a nursing home. When I was seven, she was diagnosed with cancer and my mother cared for her and managed the home for several years. The nursing home was on the ground floor and our living quarters were on the floor above. I thought I had put ‘old folks’ behind me for good when, armed with a Master’s degree in Speech Communications, I embarked on a ten-year career in academia. My decision to return to the field of aging in 1980 was inspired, in no small part, by the epiphany that the world was on the edge of a global age wave and that retirement communities were among the best ‘living laboratories’ for exploring ways to address the needs of older people. Over the next three decades, I worked on both the corporate and local levels in the areas of resource development and
communication. Beginning in the mid-1990s, I increasingly focused on adaptive technologies. I served as information researcher for the first universal design housing development in the US; was the program coordinator for the first scientifically-validated online functional fitness and lifestyle assessment program for retirement communities; started and managed the first professionally staffed computer center in a US retirement community; and in 1996 created *I, Witness to History*, the first retirement community-based program dedicated to helping older adults preserve, publish and promote their life stories online. Along the way, I had the pleasure of sharing some of those findings and programs at national conferences as well as workshops at a number of US colleges and universities, including Harvard. By 2004, I had begun to feel the need to build an academic foundation under this house of experience. The result was the present study.

### 1.7 Concerning bias

An important aspect of qualitative research involves what Fine (1992, p. 220) described as “positioning researchers as self-conscious, critical, and participatory analysts, engaged with but still distinct from our informants”. In short, we are all biased, but as researchers we are called upon to recognize, analyze, minimize and share biases that may shape and color our research and interpretation. When discussing bias and, more specifically, bias when working with the elderly, it is necessary to consider such concepts as insider/outsider status, representation, and researcher-participant relationship.

#### 1.7.1 Insider/outsider status

Given my background, training, and length of involvement at both field sites (and most especially The Midlands), I essentially functioned as an insider. That is to say, I was accepted as a member of the small world’s cultural communities and enjoyed the benefits thereof. “Interviewing within one’s own cultural community—as an insider—affords researchers a degree of social proximity that, paradoxically, increases awareness amongst both researcher and participant of the social divisions that structure the interaction between them” (Ganga & Scott, 2006). The idea that I could be accepted as an insider at a site populated by millionaire whites *and* at a site that was home to low-income minorities, might seem unlikely, but several factors made this possible. First, at the time of the interviews I was in my 60s—the same age as their own children—and close enough generationally to have experienced (or heard about) major shared life
experiences. As an example, one of my participants was on a panel with other residents sharing their dust bowl experiences with a group of middle school students. “It was so dry and windy” he explained “that we had to ‘List’ our fields.” I nodded when he said this and the other panelists bobbed their heads in agreement. We had all heard of the Lister plow that corduroyed a field so that the blown-off top soil fell into the furrows between rows. However, the huge gap between generations was brutally exposed when one of the middle school students raised his hand and asked, “Do you mean you listed ‘em on Ebay?”

Second, the wealthy were all first generation wealthy; all of my participants, rich and poor, had shared the hardships of growing up during the Great Depression as had my own parents. “Keep it, fix it, use it up,” was their common motto and mindset. This was very important. From experience, I can say that interviewing those who have inherited their wealth—the ‘entitled wealthy’—is a completely different matter, involving as it often does coping with a sense of inherent superiority on their part.

Third, and perhaps most important, I was comfortable around older adults and truly enjoyed their company. Equally important, I was comfortable with my own aging. As a result of these shared understandings with my participants, I feel I was able to achieve the enhanced and deeper understanding that Patton (2002, p. 546) termed ‘verstehen’.

1.7.2 Representation
My similarities to the sample also increased the probability that the views expressed were those of the group, partially addressing the issue of representation raised by Denzin & Lincoln (2000). As discussed further on in Section 3.6.2, in order to ensure I was representing their views, I also employed participant checks. I sought out the participants post-interview to discuss emerging categories or questions as “the researcher has the responsibility to learn from the interviewee how well the researcher’s interpretations reflect the interviewee’s meanings” (Morrow, 2005, p. 254).

1.7.3 Researcher-participant relationship
Many of the issues regarding researcher-participant relationship were addressed in the earlier discussion of insider/outsider status. However, the legal and ethical considerations require further elaboration. As a member of management at The
Midlands and a friend of management at Plaza Towers, the potential existed for me to do harm to my participants if I released confidential information. To legally address this concern, the Ethics Committee-approved Participant Consent Form (Appendix A) made it clear that they were free to withdraw from the study at any time without fear of penalty or discriminatory treatment and that their information would be confidential.

1.7.4 Tacit knowledge
Tacit knowledge has been defined as the knowledge gained through the day-to-day experiences of life, what we learn from our daily life experiences that enable us to achieve our goals (e.g., Sternberg & Grigorenko, 2000). A review of the literature would suggest that little attention has been given to tacit knowledge as it pertains to growing old. In one of our conversations about questions arising from my study, I asked Starr, a 91 year-old participant, how she came to be so knowledgeable about the aging process. She gave me a wry smile and said, “Everything I know about aging, I learned by getting old.” There is a great deal of truth in that statement, especially when conducting interpretivist, qualitative research. As noted above in my discussion of the insider/outsider relationship (Section 1.7.1), there were some benefits of being an older researcher. Until one has experienced the personal loss of a close friend or relative, found the first grey hair, or noticed the first twinges and aches—the tacit knowledge that accompanies growing older—one cannot truly understand aging.

However, grey hair is not necessarily evidence that one possesses tacit knowledge regarding the small world of the retirement community. As a research center, The Midlands was sometimes a field site for outside researchers. We called them ‘tourists’; individuals with little or no background in gerontology who came for a month or two and then went away believing they fully understood what they had seen and heard. Just as you have to live in a small town for decades before you are accepted as a ‘local’, becoming a fixture of a small world takes time; only then will you be introduced to the small truths and wisdom we call ‘tacit knowledge’. This is not to say that young people cannot uncover valuable insights in working with older adults, nor am I suggesting that there is no value in short-term studies; only that, when engaging in qualitative research with older adults, we must be aware of the lack of tacit knowledge such factors may introduce.
1.8 Research questions and goals
The findings in the study focus on two key research questions, each of which has related objectives.

(1) What roles do information and technology play in the daily lives of retirement community residents who are in the Fourth Age?

Goals:
- to identify the participants’ information needs
- to discover the sources they used to meet those needs
- to investigate their use of computers and the Internet for meeting their information needs.

(2) What is the relationship between the HIB of people in the Fourth Age and whether or not they perceive themselves to be aging successfully?

Goals:
- to explore the extent to which participants were actively seeking information
- to explore the processes by which they were able to acquire information through the context of their everyday lives
- to examine whether the physical, cognitive and social losses that accompany the Fourth Age had an impact on all of the above.

1.9 Structure of the thesis
The conceptual framework of the study is presented in the next two chapters. Chapter 2 reviews the literature and discusses the theoretical perspectives and research findings related to the areas under investigation. Chapter 3 discusses the research philosophy, design method and techniques. Chapter 4 sets forth the findings. Chapter 5 presents two case histories that put a human face on the major findings. The final chapter, Chapter 6, draws the many strands of the thesis together and discusses the results and implications for future research and professional practice.
CHAPTER 2: LITERATURE REVIEW

2.1 Introduction
This chapter provides the definitions, theories and research findings that informed this study. In short, it contains the background information that was deemed pertinent to answering the two key research questions and associated sub-questions listed at the end of Chapter 1. Further elaboration on issues raised in Chapter 1 is provided; other sections initiate discussion on relevant topics not already mooted.

The chapter begins with further discussion of two background issues introduced in Chapter 1. The first issue is the rationale for conducting a library and information studies (LIS) thesis that draws heavily not only upon LIS theories and research, but also upon gerontological research in other disciplines as well. The second is an attempt to communicate something of the shape and sheer scope of the paradigm shift in aging that is taking place around us. Following those two discussions, the remainder of the chapter is again divided into two parts. The first part examines gerontological work in other disciplines that is related to the present study. The second section begins with a discussion of the human information behavior (HIB) work in the general LIS literature that was pertinent to this study, followed by a review of the LIS aging literature, in particular the theories and research that pertain to HIB in the Fourth Age.

2.2 The interdisciplinary approach
The interdisciplinary approach adopted for the present study is by no means unique as “library and information science (LIS) is highly interdisciplinary by nature” (Prebor, 2013, p. 141). According to the extensive database survey conducted by Meho and Spurgin (2005), LIS has a long tradition of incorporating concepts and theories from other disciplines such as psychology, anthropology and sociology. Indeed, numerous LIS authorities have cited the need for such interdisciplinary studies, including Bates (1999), Grover and Greer (1991) and Julien, Pecoskie and Reed (2011). Additionally, theory triangulation is a widely-accepted method of assuring a richer understanding of the findings and greater trustworthiness in qualitative studies such as this one (Patton, 2002, p. 562). One further reason for this interdisciplinary approach was that I was
unable to identify any single paradigm, theory or study that satisfactorily explained the surprisingly complex HIB of participants in the Fourth Age.

Therefore, the literature review that follows casts a wide gerontological net; gerontology being “the study of all aspects of the aging process, including the clinical [e.g., nursing], psychological, economic, and sociological issues encountered by older persons and their consequences for both the individual and society” (Mosby’s Medical Dictionary, 8th edition, 2009). Thus, this thesis may be considered gerontological in nature. The same may be said for previous LIS age-related studies and the theories that emerged from them, notably Chatman’s (1998) theory of a life lived in the round and Williamson’s (1998) original ecological model of human information behavior. As a point of clarification, it should be noted that, while there is considerable transdisciplinarity, ‘gerontology’ as it is employed here does not include geriatrics which is “the branch of medicine that deals with the diagnosis and treatment of diseases and problems specific to old age” (Mosby’s Medical Dictionary, 8th edition, 2009).

An extensive review of the gerontological literature outside of LIS was conducted. It found almost no articles in other fields that made use of, or even made mention of, LIS aging studies and HIB theories with the exception of health information seeking in the field of nursing. Much of this may be attributed to the paucity of LIS research and theories related to older persons. Still, there has been some exceptional work done in this field that resulted in significant theoretical contributions—again, the work of Chatman (1991, 1992, 1999) and Williamson (1995, 1997, 1998, 2005) come immediately to mind—that deserve wider recognition in the gerontological community. Thus, another major reason for this interdisciplinary approach was to provide gerontologists in other disciplines with a better appreciation of LIS research on aging while providing future LIS researchers with a broader understanding of major theories and ideas in the gerontology literature outside of LIS.

2.3 The global aging crisis
This section provides the demographics supporting the argument that humanity is confronting what Peterson (1999, p. 42) called “the gray dawn” of the 21st century. It is likely that readers, regardless of their nationalities, will find that their countries are fast joining the ranks of aged societies if they are not already part of those ranks; an
Aged society is defined as one in which more than 14 percent of the population is over 60 years of age (Butler, 2008, p. 17). In the United States (US), the number of people aged 65 and older (65+) is projected to reach 86.7 million or 21 percent of the total population by the middle of this century. The fastest growing segment of the older population will be people aged 85 and older (US Census Bureau, 2005, p. v) which, as will be explained below, includes the majority of those in the Fourth Age.

Elsewhere, Canada’s population aged 65 and older will reach the 21 percent mark by 2026 (Wicks, 2004), while Australians in this category are expected to account for over one-quarter of that country’s total population, but not until the middle of the century (Jackson, 2004, p. 2). According to Jackson:

Western European nations are also rapidly increasing with the proportion of those aged 65 and older in the United Kingdom already reaching around 16 per cent in 2004, in Sweden around 17 per cent and in Germany around 18 per cent. Italy’s comparable older population had already reached 19 per cent by 2004 (p. 1).

Japan is already the oldest nation on earth, population-wise (Hewitt, 2003, p. 4). Eastern Europe and Russia are also aging rapidly: persons aged 60 and older will make up 34 percent of their populations by 2050 (United Nations International Plan of Action on Ageing, 2002). The key factor behind this gray dawn is a lack of children. Indeed, “some 61 countries currently have below-replacement birth rates” (Hewitt, 2003, p. 4). These 61 nations include developing countries which will be part of a ‘second wave’ of aging societies:

Industrialized countries should begin to see a rapid shift in their elderly dependency ratios beginning in 2010 (the ‘first wave’ of aging societies). Asian countries are next in line, leading aging’s ‘second wave.’ China and Thailand will follow Singapore and South Korea with their elderly shares rising quickly, beginning in 2035–2040 … Indonesia, India, and the Philippines … will see their elderly ratios accelerating beginning around 2050 (Nugent & Seligman, 2008, pp. 13-14).

The majority of the world’s older persons live in developing countries. By 2050, 79 percent of the population aged 60 years or over—nearly 1.6 billion people—will reside in those countries (United Nations Department of Economic & Social Affairs, 2008, p. vi).
Given the size and global scope of this demographic shift, it is to be expected that this change will hugely impact government policies, societies, and the lives of each and every person on this planet for at least the remainder of the 21st century. Indeed, the graying of the developed world’s population “may actually do more to reshape our collective future” than any other global challenge (Peterson, 1999, p. 42). Unfortunately, most of the world’s 271 nations “remain significantly more knowledgeable about (and interested in) issues associated with children than they are about population aging as an unfolding and complex twenty-first century reality” (Takamura, 2007, p. 545). Scannell (2006) notes this certainly appears to be the case in the US where:

the dichotomous division of life into ‘young’ versus ‘old’ has had to be reassessed, as life expectancy has expanded incrementally, midlife and old age have had to be remapped constantly, while we simultaneously attempt to assess our unfolding human experience of aging (p. 1415).

Thus, studies that explore the HIB of members of the Fourth Age living in retirement communities are important in and of themselves. What is more important is that any lessons learned then be applied to the 89 percent of Americans aged 55 and older who plan to remain in their own homes where the risk of isolation in all probability is even higher (Bayer & Harper, 2000, p. 4).

2.4 Gerontological theory and research outside of LIS
This section begins with an introduction to lifespan development theory (LSDT), sometimes referred to as ‘lifespan developmental psychology’ or ‘lifespan psychology.’ LSDT underpins the gerontological aspects of this study as it is often seen as the most fully-developed developmental theory within gerontology (e.g., Friedrich, 2001) and is considered by many to be a metatheory (e.g., Baltes, Lindenberger & Staudinger, 2006). The development of LSDT, its philosophical foundations, and LSDT theories and research pertaining to the present study are discussed below.

2.4.1 Lifespan development theory
LSDT has been described as “the coordinated integration of various age-based developmental specializations in one overarching, cumulative framework of
ontogenesis” (Baltes et al., 2006, p. 570). According to its most famous progenitor, the late Paul Baltes, lifespan theory traces its historical roots to the work of the German philosopher, Johann Nicolaus Teten, in 1777 (Baltes et al., 2006, p. 570). The term ‘lifespan development theory’ is attributed to Baltes, a German citizen who was teaching in the US at the time, and publically introduced by Baltes and Goulet in 1970 (Baltes, 2000, p. 15). Since that time it has been under continuous development in the US and abroad, most notably at the Max Planck Institute in Germany where Baltes served as director for psychology and human development from 1980 until his death in 2006. (See, for example, Baltes & Goulet, 1970; Baltes & Baltes, 1990a, 1990b; Baltes, 1997; Horgas, Wilms, & Baltes, 1998; Smith & Baltes, 1999; Smith, 2002; Baltes, 2003; Baltes & Smith, 2003; Baltes et al., 2006; Heckhausen, Schulz & Wrosch 2010.)

LSDT emphasizes context and embraces the idea that “human development is equally strongly conditioned by cultural and individually based agency factors” (Baltes, 2000, p. 21). As first proposed by Baltes & Goulet (1970), the guiding tenets may be summarized as follows:

- There is value in both quantitative and qualitative research.

- Aging must be understood across the continuum from birth to death and no one stage of development is any more important than another.

- As individuals age, they require ever-increasing levels of culture-based resources in order to offset biological-genetic losses.

- The impact of these biological-genetic losses—far from being universal—is always subject to the context of the environment and the individual’s own ability to use available internal and external resources while compensating for these losses.

- At some point, Culture will no longer be able to offset, these biological-genetic losses.
As will be discussed below, these guidelines are compatible with the basic tenets of everyday life information seeking (ELIS) and information seeking in context (ISIC) as put forward by the likes of Savolainen (1995) and Vakkari (1996) in the field of LIS. As such, these LSDT guidelines helped shape my worldview in the process of conducting the present study.

2.4.2 Redefining ‘old’

When should a person be considered ‘old’? This section explores the problem associated with the traditional use of chronological age and the rationale for employing a Fourth Age classification system as proposed by LSDT and founded on observable measures.

**Chronological age.** As noted in Chapter 1, the chronological age of 65 years is the generally accepted definition of ‘elderly’ or ‘older person’ (e.g., World Health Organization, 2007). An extensive historical overview of how this social convention came to pass was provided in Graebner’s (1980) *A History of Retirement in America: The Meaning and Function of an American Institution 1885–1978*. In brief, the selection of 65 as the beginning of old age in the US was due to the passage of the 1935 Social Security Act: “The prevailing pension age became, in popular as well as official discourse, the boundary between middle and old age” (Thane, 2005, p. 258). In 1974, the US National Institute of Aging (NIA) was established to help guide and fund aging research. Under the leadership of its first director, Robert Butler, M.D., NIA guidelines further cemented the age 65 definition of ‘old’ in the scientific literature.

Ironically, 1974 also marked the year some gerontologists began expressing grave reservations about defining old as age 65+ (e.g., Neugarten, 1974; Neugarten & Neugarten, 1986, 1987; Laslett, 1991). Starting in the 1980s, LIS researchers were among those proposing revisions (e.g., Turock, 1982; Williamson, 1995, 1997, 1998; Asla et al., 2006). In her exploration of public library services for older adults, Turock (1982) attempted to address this diversity by subdividing old age into the ‘young aged’
(ages 65–74), the ‘old-old’ (75–84), and the ‘very old’ (85+). Today, this last group is often referred to as the ‘oldest old’ (Johnson & Barer, 1997; National Institute on Aging, 2003). Other researchers also began to notice there was something unique about the oldest old that distinguished them from other ‘old’ sub-categories. Because the oldest old were “survivors who have made it through into such advanced age,” Braungart (2005) considered them “a unique subset of older adults” (p. 130) and suggested researchers should not consider the oldest old to be the same as the general elderly population, a view supported by Friedrich (2001). Indeed, the oldest old have “been commonly characterized as having considerable age-related decline in function, high rates of morbidity, dementia and frailty, and to be high consumers of formal and informal care” (Andrews, Clark & Davis 2006, p. 319).

However, Suzman, Harris, Hadley, Kovar and Weindruch (1992) and Berkman et al. (1993) found variations in these losses even among the oldest old. The Suzman et al. (1992) study is of particular interest here as over half of that study’s participants—all aged 85+—reported no significant physical disabilities and indicated they were able to go about their daily activities without personal assistance.

Furthermore, it is important to note that Suzman et al. (1992) was an American study. Country of origin further complicates any attempt to arrive at a truly meaningful chronological definition of ‘old’. “In today’s developing countries, the period of old age begins and ends at younger chronological ages than is the case in developed countries” (Baltes & Smith, 2003, p. 124). Likewise Lähteenmäki & Kaikkonen (2004) reported that in Finland: “75 years seems to be the statistical age when serious illness and deterioration starts to become obvious” (p. 19). Moreover:

The diversity seems to be further growing when post-war baby-boomers grow older as they have more differences in several aspects: there are big differences in education level, living places (rural or urban), experience of different cultures, work history, family background (single, married, divorced, re-married, living with different or same sex partner) (Lähteenmäki & Kaikkonen, 2004, p. 19).

So it should come as no surprise that, after reviewing numerous aging studies in the fields of sociology, psychology and geriatric medicine, Friedrich (2001) described chronological age as “a rather crude unit of measure of development” (p. 43). In the US
at least, it appears that some aged 85+ individuals may remain hale and hearty for years to come (Suzman et al., 1992) while other individuals may enter the Fourth Age earlier in life (Lamdin and Fugate, 1997).

Thus, any attempt to chronologically define old age is going to be temporally and situationally bound and transitory at best. Witness the fact that, following the 2010 census, the US Census Bureau redefined the ‘oldest old’ category upward from aged 85+ to aged 90+ due to increasing US lifespans (He & Muenchrath, 2011, p. 1). In the words of the late Dr. Robert Butler, founding director of the US National Institute on Aging, “there is nothing magical or scientific about [65] … or any other number in defining old age” (Butler, 2008, p. 13).

**The Fourth Age.** By the 1990s, gerontologists in the fields of demography, bio-demography, and sociology had begun to explore another classification system: dividing the lifespan into four ages based on social roles and health needs rather than strictly relying upon chronological age (Smith, 2002). The sociologist Laslett (1991) is often credited as the first to set out the concept of the Fourth Age in his influential book, *A Fresh Map of Life: The Emergence of the Third Age*, in which he redefined the Third Age as the retirement years, making ‘old’ the Fourth Age. However, his work followed in the footsteps of Neugarten’s (1974) ‘Age Groups in American Society and the Rise of the Young-Old’. Thus, both should be seen as “key instigators of the basic idea of multiple ages of old age and . . . the uniqueness of a third age” (Baltes & Smith, 2003, p. 124).

Within five years of Laslett’s (1991) publication, Four Ages theory had “become an integral part of thinking” in the field of aging:

*The First Age:* the time between birth and 20 to 25 years when education, socialization, and preparation for work occurs.

*The Second Age:* the period between taking on the obligations of a job, marriage, and retirement from paid work.

*The Third Age:* usually ushered in by retirement when people have time for self-fulfillment.

*The Fourth Age:* the stage, once called old age (and sometimes referred to as the disability zone), which is characterized by illness, frailty,

Laslett (1995, p. 72) outspokenly opposed tying the four ages to specific chronological ages. This made Four Ages theory attractive to some gerontologists as it coincided with their efforts to redefine ‘old’ in non-chronological terms.

Eschewing such a strictly chronological approach, LSDT researchers largely embraced the Fourth Age concept. Based on longitudinal studies, Baltes and Smith (2003, p. 130) subsequently defined the Fourth Age in terms of measurable behavioral and social losses, although including some facts linked to chronological age:

- There is an accumulation of chronic life strains, with 80 percent experiencing losses in up to six critical areas (e.g., vision, hearing, strength, functional capacity, illness, and cognition).
- There is increased breakdown in psychological adaptability
- There are sizable losses in cognitive potential and ability to learn.
- Dementia is prevalent (about 50 percent in 90 year-olds).
- The functional profile two years before death is increasingly negative, including losses in cognitive functions and losses in identity (greater loneliness and psychological dependence).

These losses can come on gradually as disorders begin to multiply and intensify (multimorbidity) or can come on suddenly due to, say, a stroke. Nor are Fourth Age transitions necessarily certain to be irreversible. “There may be recovery from a stroke or mobility may be regained following an operation for fractured neck or femur, for example” (Woods, 2008, p. 6). What is certain is that “research on the different ‘ages’ of old age is one of the new frontier topics of gerontological research” (Baltes & Smith, 2003, p. 128).
2.4.3 US retirement communities

When retirement communities began to appear on the American landscape in the late 1950s, they were not without their critics. In 1967, Margaret Mead disparaged a society that threw away older adults’ valuable experiences and “put more and more people into golden ghettos” (Mead, 1967, p. 157). Maggie Kuhn, founder of the 1970s Gray Panther movement, went so far as to dismiss retirement communities as “playpens for the elderly” (cited in Osgood, 1983, p. 29). However, the handful of subsequent empirical studies (e.g., Osgood, 1983; Wethington & Krout, 2003) have generally reported positive benefits. “It is clear that association with age peers is conducive to social integration because of the opportunities to meet and socialize with friends who share similar pasts and futures, similar interests, and a similar stage in the life cycle” (Osgood, 1983, p. 40).

Still, the retirement community environment remains largely under examined. Consequently, “almost nothing is known of how housing environments relate to changes in the attitudes, behaviors, and needs of older adults over time” (Krout & Wethington, 2003, p. 7).

The US has more retirement communities per capita than any other country (Streib, 2002). As noted above, Laposa & Singer (1999a, 1999b) estimated there were over 40,000 SHLTC facilities. For LIS researchers and practitioners, these age-segregated congregate living communities offer the convenience of access to large groups of older adults in a single location. However, as discussed in Chapter 1, prior to the present study only one LIS researcher (Chatman, 1991, 1992) had extensively studied life in retirement communities.

Non-LIS retirement community studies. As reported above, a number of studies have been conducted in other disciplines. Unfortunately, most failed to discriminate among the chronological ages of lifespan stages, treating their participants as a monolithic group. Still, several of them were found to be pertinent to the present study.

Duff and Hong (1995) surveyed death anxiety in six West Coast retirement communities, an information need that had been previously examined by LIS researcher Elfreda Chatman (1991, 1992). Duff and Hong examined the hypothesis that age density
(living in a community where illness and death regularly occur) would increase death anxiety. Their findings did not support the age density argument. They also reported that attendance at church services (religiosity) was associated with low death anxiety (p. 19).

Osgood (1983) studied role development in a field study of three large retirement communities (high, middle, and low-income), spending about six weeks at each site and conducting interviews with about fifty participants at each site, as well as visiting with local service providers and employees. It should be noted that the three sites were all destination retirement communities located in the US sunbelt—retirement meccas for healthy, active Third Agers who move to warmer climes when they retire. No one moved to one of these communities due to failing health and individuals were inclined to choose communities that matched their cultural programing: wealthy white professionals at one, Jewish New Yorkers at another, and blue collar workers at the third. The study identified a typology of residents: Organizers, Joiners, Socializers, Humanitarians, Recreationalists, and Retirees. The Retirees were characterized by the lack of any social roles:

- Usually they are older and sicker than other members of the community. They have retired from roles formerly engaged in primarily because of their failing health and advancing age. Many former Organizers and Recreationalists become Retirees ten or twelve years after moving to the community (Osgood, 1983, p. 37).

While the study failed to identify the calendar ages or life stages of participants, it seems likely that most Retirees had reached the Fourth Age.

Perhaps the most ambitious SHLTC industry investigation to date was the Pathways to Life Quality study that surveyed more than 800 older adults, ages 55 to 100, living in a variety of age-segregated housing arrangements in upstate New York (as well as a number aging in place in the community at large) in an effort to determine “the role of housing decisions and transitions in determining the life quality of older Americans” (Stone, 2003, p. xiii). It is important to bear in mind that these were not destination locations as in the Osgood (1983) study. Rather, they were local retirement communities, often in close proximity to individuals’ earlier homes and established social networks.
The *Pathways* study employed ecological theory. As will be discussed in more detail further on, ecological theory, which falls under the lifespan development theory umbrella, recognizes that physical and social environments—such as the two retirement communities in the present study—may either help or hinder an individual in compensating for the physical, cognitive and social losses that often appear at the far end of the lifespan. The *Pathways* study arrived at a number of conclusions that were germane to the present study.

First, the primary reason residents gave for choosing to move to a CCRC or independent living facility was the desire for more social interaction and activities, thus maintaining their personal interests and avoiding social isolation even as their ability to move about in the community at large declined. However, relocation could pose a serious threat to social integration if location weakened access to existing close informants and social activities, for example if a resident moved to a retirement community in another city in order to be close to an adult child caregiver.

Second, the participants’ life satisfaction was tied to their perceived identities or social roles (e.g., friend, parent, volunteer, church/synagogue/mosque member). These social roles/identities tended to increase, or remain stable, among those living in CCRCs as opposed to those who remained in the community at large.

Third, the *Pathways* study did not find that the oldest CCRC residents significantly adopted any new roles/identities (Wethington & Krout, 2003, pp. 211-223). Thus, the oldest residents were directing their failing energies to maintaining their existing roles. These conclusions appear to match those of Osgood (1983). This would suggest that, regardless of location, individuals whose health is failing—Osgood’s ‘Retirees’—have reached a point in their lives that makes them, as a group, dramatically different from their more able-bodied neighbors. They are in the Fourth Age.

Up to this point, the term ‘retirement community’ has been used indiscriminately to describe what are in reality quite different forms of SHLTC facilities. Unfortunately, understanding the SHLTC landscape in the US is more easily said than done due to legal definitions that often differ from state to state and agency to agency. To further
add to the confusion, marketers are constantly developing new phrases to replace traditional terms like ‘retirement communities’ or ‘senior living’ in an effort to attract the aging baby boom generation. In their study of the SHLTC industry, Laposa and Singer (1999a, 1999b) attempted to resolve this confusion by proposing functional categories based on the kinds of services and facilities provided. Drawing on the literature and thirty years of experience in the SHLTC field, I have elaborated upon their work and employed the following classification system for the purposes of this study.

**Independent living facilities.** These range from residential apartment complexes to retirement villages that may or may not offer a range of additional services such as congregate meals, a health clinic, scheduled activities and programs, transportation, housekeeping, and yard and home maintenance. As the name suggests, these are designed for individuals still capable of living independently. The US Department of Housing and Urban Development (HUD) housing for low-income older adults, often termed ‘senior housing’, falls under this category (US Department of Housing and Urban Development, 2013), as do age-segregated, upscale, gated communities. Independent living facilities may include a mixture of residents who are in the Third and Fourth Ages. This mixture is particularly evident in low-income senior housing due to the lower age criteria for admission (age 50). Based on the size of the development, this category is sometimes further sub-divided into retirement new towns, retirement villages, retirement subdivisions, and retirement residences (Altman, Lawton & Wohlwill, 1984, p. 67).

**Assisted living facilities.** These are government regulated and licensed and are intended for those individuals who can no longer live independently without assistance with such daily activities as taking medications, transportation and meal preparation as well as for those with memory disorders—yet do not require all of the services of a skilled nursing facility. In 2009, the average age of assisted living residents in the US was 86.9 years (National Center for Assisted Living, 2009). Because of the nature of the services, individuals moving to assisted living facilities are most likely to be in the Fourth Age.

**Skilled nursing facilities.** These are sometimes called ‘nursing homes’ in this thesis. They are government regulated and licensed, and serve those who require 24/7 nursing
care. Many of these also have dementia care units for individuals who are in the later stages of Alzheimer’s disease. With the average age at move-in being 79 (Leading Age, 2011), and given the number of physical and cognitive losses nursing home residents display, it is safe to say that, with rare exceptions, every permanent nursing home resident is nearing the end of the Fourth Age. Individuals will sometimes become short-term nursing home residents while recovering from illnesses or operations and then return to independent living.

**Continuing care retirement communities.** As the name suggests, these offer some variation on all of the above services and accommodations at a single location. The average move-in age is 78 (Wilson, 2007). These full-service communities generally cater to affluent older adults from the immediate geographic area who have been living independently and now want to assure their future health needs can be met without having to move again. This suggests these residents are aware that their health, or the health of a spouse, is in decline, i.e., they are approaching, or in, the Fourth Age.

**Naturally occurring retirement communities.** For the sake of completeness, it should be noted that there is an ever-growing number of ‘de facto retirement communities’ (Longino, 1981). These are termed ‘naturally occurring retirement communities’ or ‘NORCs’, a name introduced by Michael Hunt, School of Human Ecology, University of Wisconsin-Madison (Hunt & Gunter-Hunt, 1985). Unlike SHLTC housing, these communities were not originally designed with the delivery of services to older persons in mind:

> The NORC concept refers to a geographically defined community with a large proportion of older persons. NORCs are distinguished from planned housing communities with high concentrations of older residents, such as senior retirement communities or assisted living communities, in that they are “naturally occurring”; that is, NORCs were not designed specifically as a community for older residents but rather evolved that way over time (Colello, 2007, p. 2).

NORCs may be housing developments, apartment buildings, or neighborhoods where at least 50 percent of the residents are age 60 or older (Piturro, 2002).
The present study used two traditional retirement communities as its field sites for the sake of convenience. However, NORCs as information environments are certainly worthy of future study. As with other kinds of retirement communities, the number of NORCs is difficult to determine. In one of the most recent surveys available, it was estimated that 17 percent of US households with individuals aged 55 and older lived in a NORC in 2005 and that number was expected to grow (AARP, 2005, p. 106).

2.4.4 Successful aging in the US

Kuhn (1970) defined a paradigm as “a set of interrelated assumptions about the social world which provides a philosophical and conceptual framework for the systematic study of that world” (p. 10). In this case, it must be emphasized from the outset that the successful aging paradigm described here, with its emphasis on personal life satisfaction, is endemic to the United States (Sadler & Biggs, 2006, p. 269).

To grasp this point . . . it is enough to note that in the United States, anything that appeals to success and productivity is likely to prove decisive because values of success and productivity are so deeply embedded in the national character (Morse, 2008, p. 57).

Suh, Diener, Oishi and Triandis (1998) have also suggested that the strong cultural emphasis in the US on self and self-gratification sets it apart from East Asian countries where a collectivist mentality, emphasizing conformity to social roles and obligations, is the norm. Given the rapid pace of globalization, these cultural differences may no longer be as starkly drawn as Suh et al. (1998) proposed. Still, in the absence of new research to the contrary, a degree of caution should be exercised when attempting to apply US definitions of successful aging to other cultures.

Any discussion of the successful aging paradigm must begin with the older biomedical paradigm it proposes to displace. The biomedical paradigm generally endorses the view that the problems of old age are: (1) largely pathological and negative; (2) unique to the older population; and (3) are to be studied largely in isolation from other stages of life development. This paradigm, dubbed by one critical theorist as “the biomedicalization of aging” (Achenbaum, 1992), dominated American aging research during most of 20th Century and still remains a powerful force today in geriatrics. It is worth noting that ‘biomedicalization’ has been criticized in other contexts such as women’s health care.
HIB (e.g., Genuis, 2012). In the field of aging, this biomedicalization had its roots in a series of annual conferences that began in 1937 and were dedicated to the discussion of the problems of aging. Sponsored by the Josiah Macy, Jr. Foundation, these invitation-only conferences continued into the 1950s during which time attendance was limited almost exclusively to select physicians and high-ranking government officials.

Dating from the early 1960s, the newer, more optimistic paradigm of successful aging now appears to be gaining increasing acceptance as can be seen by the United Nation’s International Plan of Action on Ageing (2002) which reflects some of the philosophical tenets of the new paradigm. This plan called for studying four dimensions of old age and aging: (1) individual lifelong development; (2) multigenerational relationships; (3) the dynamic between population aging and individual development; and (4) the life contexts of older persons.

As noted in Chapter 1, the modern use of the term is usually attributed to Havighurst (1961), who equated aging successfully with the individual’s life satisfaction and morale: satisfaction with earlier life choices; satisfaction with his or her present situation as compared to others of the same age; and, and a positive outlook towards the future. A developmental psychologist, Havighurst offered an attractive alternative to the largely negative biomedical paradigm by broadening the focus to include exploration of the potentially positive aspects of aging (those over which older individuals retained some control) rather than exclusively focusing on the problems that often accompany old age. He did this by espousing the need to study the elderly as individuals within the context of their own lived lives and by introducing the view that aging is a complex, life-long continuum of social, spiritual, mental, and physiological processes. In short, the successful aging paradigm promoted inclusivity as opposed to the exclusivity most often found in the biomedical paradigm (Friedrich, 2001). Atchley (1972) elaborated upon the inclusivity concept, proposing what has come to be known as the continuity theory of normal aging, which also falls under the LSDT guidelines discussed above. The assumption that normal aging can and should be viewed as a continuum is supported by a number of longitudinal aging research studies (e.g., Bukov, Maas & Lampert, 2002; Silverstein & Parker, 2002; Nuttman-Shwartz, 2004; Agahi, Ahacic & Parker, 2006).
Many others subsequently adopted the new paradigm, often shaping it to fit their own disciplines and interests (e.g., Cumming & Henry, 1961; Lemon, Bengston & Peterson, 1972; Atchley, 1972; Fries & Crapo, 1981; Windley, Byerts, & Lawton, 1982; Rowe & Kahn, 1987; Lustbader, 1991; Fisher, 1992; Gwyther, 1995; American Federation for Aging Research & the Alliance for Aging Research, 1995; Palmore, 1995). By the end of the 20th century, the concept of successful aging was central to gerontology in the US (Bearon, 1996).

Unfortunately, “most concepts of successful ageing are used uncritically and tend to reflect the academic discipline of the investigator” (Bowling & Dieppe, 2005, p. 1550). Today, arguments regarding successful aging fall within two major ideological camps. The first is made up of those who, like Havighurst, believe individuals’ subjective evaluations of personal well-being are crucial in determining whether or not they are aging successfully (e.g., Sexton & Munro, 1985; Baltes & Baltes, 1990a, 1990b; Heckhausen et al., 2010). So, for example, satisfaction with one’s standard of living “may be of greater importance for an individual’s outlook on life than his or her actual financial conditions” (Baltes & Baltes, 1990b, p. 273). As Bearon (1966) expressed it, “successful aging is in the eye of the beholder”. The study by Phelan, Anderson, LaCroix and Larson (2004) supports this view. Phelan et al. compared 4,566 older adults’ views regarding their successful aging with those in the published literature. The study found that older adults’ personal perceptions of successful aging differed markedly from published definitions:

Specifically, older adults’ perceptions of successful aging are multidimensional, involving beliefs about physical, functional, social, and psychological health. None of the published work describing attributes of successful aging has included all four dimensions (Phelan et al., 2004, p. 215).

More representative of the biomedical paradigm, the second view “emphasizes the maintenance of physical and mental functioning as the keys to aging successfully” (Bowling & Dieppe, 2005, p. 1549). Thus, external examinations of factors such as longevity and health provide the best measure of successful aging (e.g., Rowe & Kahn, 1987, 1997). “A good old age, in this definition, is just an old age with minimum sickness or frailty, as much like youth or midlife as possible” (Moody, 2005, p. 60). The term often used for this is ‘compression of morbidity’ (Hubert,
Bloch, Oehlert, & Fries, 2002). For the purposes of the present study, ‘morbidity’ is defined here as “the presence of a medical condition and/or disease and/or medical condition that impairs HIB”.

Successful aging in the mind of the public. In the US, aging successfully in the mind of aging baby boomers has come to be equated with anti-aging—and anti-aging is big business. The public is “regularly consumed with explicit commercial messages that promote an experience of aging that is far more possible on billboards than in the three-dimensional lives of most elderly people” (Scannell, 2006, p. 1415). A 2012 Google search for ‘anti-aging’ returned 63.7 million hits, a dramatic increase from the 18.7 million hits reported by Scannell (2006, p. 1417). Indeed, the global market for anti-aging products for the baby boomer generation “was worth $162.2 billion in 2008 … [and] should reach $274.5 billion in 2013” (BCC Research, 2009). Drug and beauty product manufacturers blatantly encourage physicians to promote the notion of anti-aging through articles like ‘Anti-aging Skincare Products Drive Practice Profitability’ (Whitman, 2009) that present misleading definitions of aging, suggesting getting old is reversible with just the right skin products and surgical procedures. Unfortunately, the need for information on aging is more than skin deep:

Our culture’s compulsive spinning of old age into gold can inflict psychospiritual harm when it lures people into expecting a perpetually gilded existence … Without more prevalently honest cultural representations of aging to inform our sensibilities, many of us approach the prospect of becoming old as though it were an option (Scannell, 2006, p. 1416).

The public’s knowledge of aging in the US calls to mind Wilson’s (1977) discussion of public knowledge versus private ignorance: while most Americans remain largely ignorant or misinformed a more realistic, evidence-based definition of successful aging is already public knowledge.

Successful aging based upon lifespan development theory. The Italian philosopher Bobbio blamed at least part of the distorted and overly optimistic view of successful aging on what he called ‘happy gerontologists’ (Bobbio, 1996, cited in Baltes & Smith, 2003, p. 127). A subsequent 10-year study of some 500 people aged 70 years and older
conducted by Baltes and the Max Planck Institute for Human Development confirmed what Bobbio had suggested:

This optimism about becoming old needs to be more closely scrutinized. Although some people remain very agile and emotionally well-off in their old age, their numbers begin to dwindle as age increases. Physical and mental capabilities increasingly diminish the older someone gets. This clearly contradicts the belief that people who live long are spared the negative experiences of aging. The “happy days” of the Third Age become “unhappy days” for more and more people in the Fourth Age (Baltes, 2003, p. 17).

Thus, while successful aging in the Third Age can be defined as staying mentally and physically healthy for as long as possible (‘compression of morbidity’), successful aging in the Fourth Age becomes a matter of adapting to losses.

To this end, life span researchers have focused on searching for models and definitions of successful (effective) development . . . One general approach to this topic has been to define successful development as the maximization of gains and the minimization of losses (Baltes et al., 2006, p. 570).

“For example, instead of downhill skiing, one takes up cross-country skiing. Instead of remaining a professional athlete, one becomes a coach; and so on” (Moody, 2005, p. 61). Moody termed this view ‘decrement with compensation’. Baltes et al. (2006) described this behavioral model as ‘Selectivity-Optimization-Compensation’ (SOC)—a central tenet of LSDT. As individuals age, they can maximize their successful aging by becoming more selective in their activities, by optimizing the necessary skills through increased practice, and compensating for losses as exemplified in Moody’s description of the skier and professional athlete.

Building on the SOC concept of compensation, Balte’s colleagues at the Max Planck Institute proposed and evaluated the lifespan theory of control (e.g., Heckhausen & Shulz, 1993, 1995, 1999). Personal control is central to understanding the role retirement communities can play with regard to the successful aging of residents who are members of the Fourth Age.
2.4.5 Retirement communities and successful aging

As observed in Chapter 1, unless their residents either are continuing to develop, or at least maintain, their earlier interests and developmental goals, retirement communities like those in the present study run the real risk of simply becoming ‘God’s little waiting Room’. The definition of ‘developmental goals’ adopted here was proposed by Heckhausen et al. (2010): “desired outcomes or developmental tasks . . . adopted by the individual . . . toward which to strive and . . . thus organize the [individual’s] active attempts . . . to influence their own development” (p. 34). These desired outcomes are often strongly influenced by what society has come to identify as an appropriate developmental task for a given age period (Havighurst, 1952). Nowhere is this more apparent than in old age. In American society, “there are few opportunities for older adults to serve their own developmental needs, and they are, in the main, marginalized from productivity while having a surfeit of time” (Fried, Freedman, Endres & Wasik, 1997, p. 216). As will be seen in the LIS section of this chapter, Savolainen (1995) described something very similar that he called ‘learned helplessness’, equating it to a pessimistic-affective mastery of life.

Moreover, Fried, et al. (1997) noted that “the major developmental goal task that underlies successful aging is generativity—that is, defining one’s life contributions and ensuring one’s legacy through active participation in meaningful, contributory roles, the chance to ‘give back’” (p. 216). Thus, a retirement community that provided its residents with opportunities for active, meaningful contributions would be more apt to support their sense of aging successfully. One of the questions the present study set out to answer was whether or not such control-related behavior also created a need for information.

Control-related behavior is classified as primary or secondary as well as selective or compensatory (Heckhausen & Schulz, 1995). *Primary control* refers to actively attempting to change the external environment in order to achieve an individual’s personal development goals. *Secondary control* refers to the individual adapting his or her internal processes (e.g., goals or interpretations) in order to bring them into line with environmental forces. These environmental forces may be personal and/or social; internal and/or external.
Heckhausen et al. (2010) found that primary control strategies were generally associated with the First, Second and Third Ages of life. In the Fourth Age, primary control diminished and secondary control strategies became paramount as the individual developed strategies to minimize losses, maintain some measure of existing primary control, and selectively expand primary control. It is worthy of note that one control theory study found that more primary control striving predicted improved survival, everyday functioning and quality of life for persons age 70 and older with functional difficulties (Gitlin, Hauck, Winter, Dennis & Schultz, 2006). It must be noted that the authors were talking about aging in the US, a country that glorifies the myth of rugged individualism. “Whether dependency entails loss of dignity will be heavily influenced by … cultural differences, not by physical traits alone. In short, different cultures, even today, view self-sufficiency in ways that are profoundly different” (Moody, 2005, pp. 58-59).

When an individual lacks the behavioral resources to achieve a goal, compensatory strategies may be employed. *Compensatory primary control* attempts to bolster behavioral resources by external means, such as moving to a retirement community with transportation services when one has to give up driving. *Compensatory secondary control* involves abandoning an unattainable goal through self-protective strategies. As an example of the latter, individuals with serious perceived health issues have been found to be more likely to disengage from health goals (Menec, Chipperfield & Perry, 1999). This finding complements the work of Chatman (1991, 1992) in LIS. In her study of single females living in a southern US retirement community, Chatman concluded that participants who feared they might be suffering from serious health issues, such as dementia, often avoided actively seeking information regarding their health information needs.

Here again, it seems likely that a retirement community ecology could play a significant role in supporting residents’ sense of aging successfully. Staffing, programs and services might play an important support role in helping residents maintain compensatory primary control; without them, residents would have to abandon goals and, one may speculate, have less need for information. This concept of context is embodied in ecological theory, which was employed in two of the major studies included in this literature review, the aforementioned *Pathways to Life Quality* study
and Williamson’s (1995, 1997, 1998) LIS study that will be discussed below. Further, ecology theory became the foundation of Williamson’s ecological model of information use and, later, her ecological theory of HIB (Williamson, 2005).

2.4.6 Ecological theory

First applied to education, ecological theory has been widely adapted for use in the biological, behavioral, social and health sciences (e.g., Bronfenbrenner, 1979; Kenyon, 1988; Birren & Birren, 1990; Sallis & Owen, 1997; Green & Kreuter, 2004), retirement communities (Krout & Wethington, 2003) and in LIS (Williamson, 1995, 1997, 1998, 2005). A variant, the ecological theory of aging, was originally introduced by Lawton & Nahemov (1973). As such, it focuses on the ways

in which an individual's competence (as manifested in later life, primarily in declining physical and cognitive functioning) interacts with environmental press (actual and perceived demands imposed by physical and social environments), especially as functional limitations increase with age (Scharlach, 2009, p. 5).

As we shall see in the next section, this concept of environmental press strongly complements Chatman’s (1999) LIS theory of a life lived in the round.

Ecology theory is “a major school of thought in psychology, particularly within the field of life-span development” (Elkin, 1996, p. 150). That is to say, it reflects LSDT’s emphasis on the context of the surrounding environment:

The ecology of human development involves the scientific study of the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate setting in which the developing person lives, as this process is affected by relations between these settings and by the larger contexts in which these settings are embedded (Bronfenbrenner, 1979, p. 21).

Ecology theory envisions these settings and contexts as a series of nested spheres, reminiscent of a Russian Matryoshka doll; each sphere representing some aspect of the “overarching patterns of ideology and organization of the social institutions common to a particular culture or subculture” (Bronfenbrenner, 1979, p. 8). Greyson (2012) provides a clear and distinct description of the traditional ecological model:
Ecological systems models are typically portrayed via concentric circles, with the individual, and individual-level characteristics, at centre. This core is nested within a *microsystem*, comprising activities, roles and personal relationships in which the individual engages. Elements of the microsystem interact with each other in the *mesosystem*. The next layer out is the *exosystem*, containing settings that influence the individual, but with which the individual does not directly interact. The outer layer in Bronfenbrenner’s original theory is the *macrosystem*: subculture- or cultural-level systems that shape the environments and relationships in which the individual engages (Greyson, 2012, p. 2).

Thus, as Lähteenmäki and Kaikkonen (2004) noted, a wide variety of factors may impact on an individual in the Fourth Age—and the First, Second or Third Ages as well. What Greyson’s (2012) description failed to make mention of is the transient and ever-changing nature of these systems over a lifespan—the music of the spheres, if you will. Thus, through the lens of ecological theory, human development must be seen not as the inevitable unfolding of predetermined characteristics, but more as a social construction in which the individual develops through an ongoing interaction between the individual and the social contexts and social groups with whom the individual interacts (Blum, McNeely & Nonnemaker, 2001, p. 53).

This interaction is clearly implied in Williamson’s (1998) ecological model of human information use that will be discussed further in Section 2.6.2. It also nicely complements the thinking of such LIS theorists such as Brenda Dervin (1998) who saw personal reality as fluid and subject to change due to time and circumstances.

### 2.4.7 Maintaining the ability to drive as a measure of successful aging

Because it is so often associated with personal freedom and independence, being able to drive an automobile in the US may be seen as a primary developmental goal related to successful aging. Given the great distances to be traveled and the lack of mass transit, this is particularly true in the Midwest where this study took place. Indeed, driving cessation among older drivers has been shown to result in increased depression (Ragland, Satariano & MacLeod, 2004), decreased out-of-home activity levels (Marottoli, Medes de leon, Glass, Williams & Cooney, 2000) and increased risk of long-term care institutionalization (Bartley & O’Neill, 2010; Edwards, Bart, O’Connor & Cissell, 2010; Carr & Ott, 2010).
A review of the driving literature also suggested that the reasons associated with older persons ‘giving up the car keys’ (e.g., Lyman, McGwin & Sims, 2001) mirrored the variables ascribed to the person-based definition of the Fourth Age, including increased functional impairments and vision impairments. Many older adults who had stopped driving reported increasing motor deficits (e.g., difficulty walking up stairs, joint pain, coordination difficulties) and increasing visual deficits than did older adults who continued driving (Persson, 1993; Ragland, Satariano & MacLeod, 2005; Siren, Hakamies-Blomquist & Lindeman, 2004). Indeed, “driving cessation among elderly drivers … [has] shown stronger associations with measures of visual, physical, and cognitive functioning than with diagnoses of specific medical conditions and diseases” (Foley, Heimovitz, Guralnik & Brock, 2002, p. 1288). As will be shown in the next chapter, this knowledge proved to be very important when it came to identifying potential participants for this study.

2.4.8 Positive emotions and successful aging

Positive emotions appear to promote successful aging. Individuals’ continuing pursuit of developmental goals appears to be linked to the frequency of experiencing positive emotions (as well as a sense of greater well-being) among individuals aged 72 to 102 years (Freund & Baltes, 1998, 2000). Further, Vaillant (2008) suggested that positive emotions are long-term survival mechanisms as opposed to negative emotions that may be invaluable motivators in the short term. Supporting both of the above views, a 10-year longitudinal study of 184 participants ranging in age from 18 to 94 years, concluded that emotional well-being actually improves from early adulthood to old age and that there is growing evidence “that experiencing positive emotions may not only improve quality of life, it may add years to life” (Carstensen et al., 2010, p. 11).

This raises the question as to whether or not older persons might actively seek positive affective information. Ketelaar and Tung Au (2003) proposed just such an ‘affect-as-information’ model, suggesting individuals learn from experiences that result in negative affective states and that this information then shapes their future social strategies so that they result in more positive emotional outcomes. There is support for their argument. Mather and Carstensen (2005) found significant evidence suggesting older adults are more apt to retain positive information than are younger adults and Hess, Cassandra, Rosenberg, Leclerc and Hodges (2005) found older participants were
more likely to respond to the positive emotions associated with the interviewer (i.e.,
his/her ‘likeability’) than the objective material being presented. Fulton (2009) reported
that:

Findings suggest that there is a pleasure principle associated with
information seeking, which may offer insight into patterns of affective
information behaviour leading to advanced learning, information use, and
technological adoption among older adults (Fulton, 2009, p. 245).

Positive emotions also appear to affect information retention (e.g., Kensinger, Brierley,
Kensinger, Garoff-Eaton & Schacter, 2006). Indeed, some researchers found that
stronger emotional responses enhance older adults’ abilities to remember episodic detail,
i.e., affective context plays a significant role when information is encountered
(Kensinger, 2009, pp. 208-212).

As will be seen in the next section, emotions have long been figured into LIS theories
and models regarding information seeking behavior (e.g., Savolainen, 1995;
However, the role of affect in relation to HIB in the Fourth Age has yet to be explored.

Once more it needs to be noted that the research of Suh et al. (1998) suggested
that this emphasis on positive affective information seeking may have a cultural
component; that the strong cultural emphasis on individual self-gratification in
the US sets it apart from East Asian countries with a collectivist mentality
where conforming to social roles and obligations is the norm. Consequently,
“emotions are far superior predictors of life satisfaction in countries like the
US” (Suh et al., 1998, p. 482). What remains unexamined in their discussion is
whether or not East Asians derive just as much satisfaction (i.e., positive affect)
from meeting their social roles and obligations.

2.5 The informational context of the Fourth Age
Sections 2.5 to 2.9 focus on information issues related to the Fourth Age. Central to the
discussion are the gerontological studies and theories in LIS that primarily informed the
present study. However research and theory, like the aging process, is shaped by the
context of what has gone before. Therefore, Section 2.5 begins with a discussion of the recent history of LIS in the US and the dramatic paradigm change in the discipline that has largely shifted the field from the study of library systems to a focus on the information user, an area that has come to be known as human information behavior (HIB). This will be followed by a discussion of non-gerontological LIS theories that helped shape my thinking and then other general HIB concepts and empirical findings. Section 2.6 examines theory-based studies of older adults, viz. a detailed discussion of the LIS gerontological theories of Chatman (1991, 1992) and Williamson (1995, 1997, 1998). Section 2.7 provides a short review of LIS empirical studies focused on older adults that have appeared in major journals and an explanation of why most were of limited value to the present study. Section 2.8 then turns to the empirical findings of three LIS researchers whose gerontological studies did pertain to the present study: primarily those of Chatman, Williamson, and Wicks. The final major section (2.9) presents discussion of what is known or surmised about the role of computers and the Internet in the Fourth Age. The chapter concludes with a summary review of key points.

2.5.1 LIS in the US

In 1964, the University of Pittsburgh became the first school of librarianship in the US to change its title to the School of Library and Information Sciences (Galvin, 1977). The name change marked the beginning of a shift towards an academic research focus; prior to this time, schools of librarianship had been professional in nature.

As a maturing discipline, LIS has faced competition from other emerging information-centered disciplines (Konrad, 2007, p. 665). However, it has been argued that “what we are doing has always been about human beings in our information environment” (Bates, 2002a). In keeping with that belief, the definition of ‘information environment’ has expanded dramatically in the past 40 years as the field’s interests expanded from libraries (library studies) to embrace the greater world outside their walls (information studies).

2.5.2 The paradigm shift to a user focus

The name change to LIS and the academic shift from profession to discipline reflected a growing interest in the behavior of information users as opposed to the library systems
that serviced them. Bates (2010) noted that the shift could be identified in the US as early as the 1950s and 1960s.

Through the 1970s, library research largely remained practitioner-centered and dominated by “system-centered approaches which, in their crudest form, reduce information seeking to library use being predicted by demographic variables such as sex and education” (Savolainen, 1995, p. 260). As it was in the other social sciences of the time, “research methods theory was dominated by an objectivist methodology” (Bates, 2002a). Thus, early library aging research in the US consisted largely of audits of services, programs, and the allocation of library resources for older patrons (e.g., Cleveland Public Library, 1971, 1972; Bewley & Crooks, 1984; Turock, 1982; Ip, 1992; Su & Conway, 1995).

By the 1970s, however, change was clearly in the air: “investigations begin to branch out beyond the focus on formal channels and task-oriented needs. The emphasis shifted away from the structured ‘information system’ and toward the person as finder, creator, and user of information” (Case, 2012, p. 6). The landmark 1973 conference on information needs of the nation marked a major effort by the US National Commission on Libraries and Information Science to broaden the scope of research by drawing attention to the information-related behavior of social groups, such as the poor and elderly (Bates, 2010). In Public Knowledge, Private Ignorance, Patrick Wilson also contributed to this paradigm shift when he discussed the concepts of information needs and information-seeking processes, arguing that everyone has a “… set of habits or routines for keeping his internal model [of the world] up to date” (Wilson, 1977, p. 36). Largely overlooked at the time, Patrick Wilson’s work later influenced both Williamson and Chatman, both of whom figure prominently in LIS gerontological research and theory as will be seen below. Utilizing a similar metaphor, Krikelas (1983) suggested that human beings engage in information seeking in an “attempt to continually construct a cognitive environmental ‘map’ to facilitate the need to cope with uncertainty” (p. 8).

There can be little doubt that the most influential voice at this time was that of Brenda Dervin, who at the time was a professor at Ohio State University. Dervin et al. (1976), a major study of the information needs of urban residents, is considered by some to be another milestone in the shift of focus from information systems to users’ information
behavior, e.g., Case (2012). Dervin et al. (1976, p. 26) expanded the definition of information beyond simply processing information, arguing that information may be defined in three different ways: as objective (socially-accepted ‘facts’ explaining external phenomena, if you will); as subjective (individuals’ biases and proclivities based on beliefs and experiences that shape their interpretation of these facts); and finally as what results from the merger of the two. “With this report, Dervin made a significant contribution by beginning the movement away from earlier, narrow conceptual approaches to research on information-seeking behavior” (Williamson, 1995, p. 15).

Two age-related studies that bridged the gap in the shift from library-centered to user-centered research were Marchant (1991) and Wilkinson and Allen (1991) who explored older adults’ library usage. As a consequence of these and similar works, there were growing calls within LIS community of scholars to begin developing “a well-founded theoretical understanding about the nature of information, the nature and needs of human beings, the transfer process between people and information resources, and the way people use information” (Fine, 1984, p. 444).

As a measure of the scope of this shift, Julien et al. (2011, p. 21) found that systems design, which once dominated the literature, had diminished to only about 25 percent of the HIB-focused articles published between 1999 and 2008. This shift coincided with a shift to subjectivist social science research employing qualitative methodologies (Bates, 2002a).

As with all emerging disciplines, definitions often varied when they were provided at all. Attempting to address this problem, Wilson (2000) offered a nested set of definitions for ‘information behavior’, as well as the sub-sets ‘information-seeking behavior’, ‘information-searching behavior’ and ‘information-use behavior’. He defined HIB as “the totality of human behavior in relation to sources and channels of information, including both active and passive information seeking, and information use” (p. 49). Still, debate continues over appropriate terminology. The terms, ‘information behavior’ (e.g., Wilson, 1999, 2000; Fisher et al., 2005), which is a contraction of ‘human information behavior’, as well as ‘information practices’ (e.g., McKenzie, 2003; Savolainen, 2007; Yeoman, 2010), are both widely used in the literature. The two terms
are often used to differentiate between the views that reality is largely constructed by the individual (‘human information behavior’) as opposed to being socially constructed (‘information practices’). In LIS, these two worldviews are perhaps most famously differentiated in the theories of Dervin and Savolainen (see below). These two complementary, but opposing, worldviews are rooted in the disciplines of psychology and sociology and will be discussed in detail in Chapter 3.

For the purpose of the present study, the term ‘human information behavior’ has been adopted. As mentioned in Chapter 1, HIB is defined in the present study as “how people in need, seek, manage, give and use information in context” (Fisher et al., 2005, p. xix). This definition encompasses all of the components of Wilson’s (2000) earlier definition, while acknowledging that individuals may also give information to others—a key point emphasized by McKenzie (2003) as will be discussed below. As Spink and Cole (2004) stated:

Thus HIB looks at the entire human condition, expanding information and its role in human life to its widest possible level. Why do we seek information all the time, often without apparent reason, often without even being aware of it, seemingly for its own sake? Human information behavior answers the question by linking the human condition and information together (Spink & Cole, 2004, p. 618).

It must be emphasized, however, that there is still a range of terminology in use. The term ‘information behavior’ appears to have mainly replaced the earlier ‘information-seeking behavior’ which encompassed a broad spectrum: information needs, information sources and processes, information use, and information skills (now superseded by information literacy). Still, specific terms such as ‘information needs’ and ‘information sources’ still abound, along with other terms such as ‘affective information’ and ‘information grounds’.

### 2.5.3 Non-gerontological HIB theories

The following LIS theories and models of HIB, while not specifically gerontologically oriented, were useful in shaping the thinking that underpinned the present study. The first, Dervin’s ‘Sense-Making Methodology’, reflects the cognitive approach. Vakkari’s (1996) exposition of ‘information seeking in context’ introduces the importance of context and sets forth guiding principles. Savolainen’s theory of Everyday Life
Information Seeking (ELIS) has a constructionist perspective, while McKenzie’s (2003) model of information practices builds on Savolainen’s work and adds the important concept of proxy information seeking.

**Sense-making.** Brenda Dervin’s sense-making was one of the earliest theories of information seeking. She first called her work a theory (e.g., Dervin, 1983), but later changed that to ‘Sense-Making Methodology’ (e.g., Dervin, 1992). The name change reflected a concern that the mushrooming number of theories and models within the LIS and other information-related disciplines was leading to confusion and cacophony that could best be resolved by adopting a standard methodology (Dervin, 1997).

Sense-making is based on the idea that information is personally constructed and that the resulting personal reality is fluid and subject to change due to time and circumstances. The implications for the present research are, first that individuals often seek information from external sources when they discover gaps in their personal realities. Second, their willingness to utilize a particular external source—and the faith they place in the information provided by that source—is dependent on a number of factors, including past experience and possible positive or negative feelings that may arise from utilizing that source or the information therefrom. The third assumption is that people use information that they believe can help them help themselves; or, to put this in the terminology of personal construct psychology discussed earlier, information that they believe can help them achieve their developmental goals.

The significance of positive feelings about information (i.e., positive affective information) and information that helps people achieve their developmental goals is particularly important when it comes to understanding the HIB of older adults, as will be demonstrated in Chapters 4 and 5.

**Information seeking in context.** There are numerous areas of convergence between LSDT in gerontology and LIS’s emphasis on information seeking in context (ISIC). LSDT and its subordinate ecological theory recognize the importance of environmental context. So, too, there has been growing recognition in LIS that the information user needs to be considered as functioning across time within the changing ecological context:
We can see the progression of work in subsequent years as developing an ever more subtle and complex vision of human beings in relation to information. In recent years, researchers … are viewing human beings as being completely submerged in and integrated into an information environment. It is assumed that the full picture can never be understood until the rich human and infrastructural environment is taken fully into account (Bates, 2002a, p. 1).

This focus on the role of context was earlier formalized as ISIC, which became the title of the biennial conferences which began in 1996 when Vakkari (1996) presented his guiding principles.

As a metatheory, LSDT is multidisciplinary and recognizes the value of both qualitative and quantitative research. Likewise, as set forth by Vakkari (1996), the guiding principles of ISIC recognize the value of multiple research approaches and multidisciplinarity:

- the shift from a narrowly person-centered focus that looks at the user out of context to an ecological worldview that recognizes that a person’s information needs and seeking are embedded in the phenomena of which they are a part

- a varied, holistic approach that makes use of theories from other disciplines

- an increased variety of methods and the use of multiple methods

- more process orientation

- more longitudinal studies

- an increased use of qualitative methods

- professional academic norms in research (based on Vakkari 1996, p. 451).
These principles were adhered to in the present study.

However, much of the HIB research to date has studied “students, scholars, and professionals” (Julien et al., 2011, p. 20). Such work-related research is of limited value to those interested in exploring older people including those in the Fourth Age.

**Everyday life information seeking.** Savolainen (1995) took a different approach to examining HIB, eschewing Dervin’s cognitive approach of the individual sense-maker in favor of addressing “questions dealing with the substance of individual characteristics of information seekers, as well as socio-cultural determinants of information seeking” (Savolainen, 1995, p. 261). As defined by Savolainen (1995), everyday life information seeking (ELIS) refers to “the acquisition of various informational (both cognitive and expressive) elements which people employ to orient themselves in [the context of] daily life or to solve problems not directly connected with the performance of occupational tasks” (p. 267). Central to ELIS are the two concepts of ‘way of life’ and ‘mastery of life’. ‘Way of life’ refers to individuals’ normal “order of [doing] things which is based on the choices that individuals make in everyday life” (p. 262). Daily life activities are seen as being either (a) job-related, (b) repetitive tasks such as grocery shopping, or (c) hobbies (i.e., voluntary activities), referring to what people do in their free time.

‘Mastery of life’ involves maintaining the established meaningful order in one’s life and requires pragmatic problem solving when the desired order is disturbed. As envisioned by Savolainen, mastery of life involves both affective and objective components:

> One is born in a culture within a social class which gives basic models for mastery of life. These models concern typical ways of approaching everyday problems . . . The culture with its specific values not only directs habits and attitudes to working life but also to spending leisure time, for example, the role of book reading and television watching. Naturally, in addition to specific social classes those evaluations are affected also by the generation to which one belongs (Savolainen, 2007, p. 264).

This suggests that culture would play a significant role when it comes to choosing a retirement community, a premise also espoused by Osgood (1983) in her research on retirement communities.
**Model of everyday information practices.** The non-gerontological model of ELIS of most interest to the present study was McKenzie’s (2003) model of everyday information practices which attempted to address the various modes by which individuals-in-context seek information. What made this model of particular interest was the introduction of the concept of proxy information seeing. As discussed earlier in the section on retirement communities, it seemed probable that retirement community employees and family members might be called upon to serve as ‘proxy information seekers’. Proxy information seeking refers to:

making contact with or interacting with information sources through the initiative of another agent, either the information source or some other gatekeeper or intermediary. Because the agent may be using any of the other three modes of connecting with the recipient (active seeking, active scanning or non-directed monitoring), accounts of proxy practices are extremely varied in their characteristics (McKenzie, 2003, p. 27).

Bates (2005) noted that models such as this are a tool in theory development, but they must be repeatedly tested for validity in order to be considered a true theory, in the case of qualitative studies, be explored for their transferability. Transferability will be discussed in the next chapter. Yeoman (2010) subsequently applied McKenzie’s 2003 model to a different target population and concluded it was sufficiently flexible and transferable to apply to other contexts.

### 2.5.4 Other HIB concepts and empirical findings

In addition to the theories and models discussed above, there are many other HIB concepts, with associated empirical findings, that are relevant to the present study. These include information needs, sources and processes, information literacy, affective information, and information grounds. While there is considerable overlap in the literature discussing these concepts, specific headings are used in the following sections.

**Information needs.** As Case (2012, p. 80) observed, “‘information need’ is often described simply, and somewhat circularly, as a cause of information seeking”. During the earlier years of information-seeking behavior research, extensive efforts were devoted to defining the process by which information needs are formalized (e.g., Taylor, 1968), the role of uncertainty (e.g., Atkin, 1973; Belkin, 1978), and the importance of feelings (e.g., Dervin, 1992). Still, no consensus has been reached with regard to
specific definitions (Williamson, 1995). Nevertheless, several quality studies of the everyday information needs of citizens undertaken in the 1970s and early 1980s (Warner, Murray & Palmour, 1973; Dervin et al., 1976; Chen & Hernon, 1982) revealed a range of different information topics were needed, with wide variations from study to study. Dervin et al. (1976) concluded that the expression of topics changes with the times, the population and the methods of information gathering. The fact that some needs are unexpressed, or unconscious, until particular information is acquired or encountered makes it difficult to investigate the area of information needs with confidence. In his ELIS work, Savolainen (1995, p. 272) suggested information needs could be divided into two categories: orienting information concerning current events and practical information which serves as the solution to specific problems.

**Information sources and processes.** The same early need studies (e.g., Warner et al., 1973; Dervin et al., 1976; Chen & Hernon, 1982) explored information sources used to meet information needs for everyday life. Personal sources (family, friends and acquaintances) were shown to be very important, as has been confirmed in many later studies, e.g., Mills (2003) who examined the HIB of university academics. The reasons for the importance of personal sources were also explored in research in the aforementioned early studies. Psychological and physical accessibility, adaptability, and the fact that sympathy and support may be needed as much as information, all emerged as possible reasons (Williamson, 1995). “However, it may well be that the mental (and undoubtedly emotional) effort required to use different sources may prove to be the more compelling predictor of use” (Case, 2012, p. 231). In short, family and friends may prove to be easier to access and are known sources.

The media were also shown to be very important in meeting information needs in the earlier studies as well as by the later work on ELIS by Savolainen (1995). It is interesting to note that, before there was such an array of media sources as is now available, research showed that users of print media were better informed than users of electronic media (Wade and Schramm, 1969). Much later, Savolainen (1995) made similar findings. With regard to factors that impact the information process, Julien and Michels (2004) identified time constraints, motivations, context, type of initiating event, location, intended application of the information found and source type.
In terms of processes, most information-seeking behavior described in the LIS literature refers to deliberate, or purposeful, information seeking, although the purposeful aspect is more often implied than delineated. Among the terms that have been applied to this kind of activity are ‘information seeking’ (Erdelez, 2005), ‘active search’ (Wilson, 1997), and ‘active seeking’ (McKenzie, 2003). McKenzie (2003) offered one of the better definitions: “specifically seeking out a previously identified source, conducting a systematic, known-item search, asking a pre-planned question, and planning or employing active questioning strategies (e.g. list-making)” (p. 26).

It is also well recognized that much information is absorbed without being purposefully sought. As mentioned in Chapter 1, Bates (2002b, p. 4) proposed that “it is not unreasonable to guess that we absorb perhaps 80% of all our knowledge through simply being aware, being conscious and sentient in our social context and physical environment.” As also already mentioned, a range of labels have been applied to this process, including (but not limited to) ‘passive information seeking’ (Bates, 2002b), ‘passive attention’ (Wilson, 1999) ‘information encountering’ (Erdelez, 2005), and ‘incidental information acquisition’ (IIA) (Williamson, 1995, 1997, 1998).

Patrick Wilson (1977) was amongst the earliest to put forward an explanation for why so much information is incidentally acquired: “Everyone has some set of habits or routines for keeping his internal model of the world up to date” (p. 36). These habits, “reading, watching television programs, listening to the radio and conversations all take time, and an astonishing amount of people’s time is spent in these activities” (p. 53).

Williamson (1995, 1997, 1998) adopted Wilson’s terminology of ‘incidental information acquisition’ since, as a result of their everyday activities, individuals often incidentally acquire information that may help them or others function in their professional and personal lives. Savolainen (1995) termed such behavior ‘monitoring in context’, while McKenzie (2003) titled it ‘non-directed monitoring’. McKenzie described the behavior as “serendipitously encountering and recognizing a source … in an unlikely place, while not seeking information at all … or while monitoring information with no intent other than to become generally informed” (McKenzie, 2003, pp. 26-27).
**Information literacy.** In the chapters that follow, it will become clear that information literacy is central to a LIS definition of successful aging. Therefore, this section is going into more detail than most.

Paul Zurkowski appears to have been introduced the term ‘information literacy’ in a report to the National Commission on Library and Information Science, *The Information Service Environment Relationships and Priorities* (Zurkowski, 1974). As will be seen, those who followed in Zurkowski’s footsteps adopted the term, but, often tailored their definitions to match their particular interests and ways of thinking. My own thoughts on the subject are closely aligned with Zurkowski’s thinking, so what follows draws heavily on his original description.

The scope of Zurkowski’s vision of information literacy embraced educators, professionals and workers alike. However, most subsequent information literacy research “was carried out in an educational context, either secondary or tertiary, with the result that definitions and descriptions were attuned to the needs and characteristics of those environments” (Lloyd and Williamson, 2008, p. 4). Carol Kuhlthau, one of the leaders in this area, made the case for this focus:

> Worldwide access to information technology has turned attention to serious questions about education in countries across the globe (Friedman 2006 . . . Vast quantities of information fuel this global society and the ability to locate, evaluate and use appropriate information for creation and innovation is essential . . . Information literacy is at the core of what it means to be educated in this century (Kuhlthau, 2008, p. 71).

As already mentioned, there are multiple models attempting to show what actually constitutes information literacy. Indeed, the website of ICT New Zealand (http://ictnz.com/index.htm) provided links to no fewer than 34 models of information literacy and information inquiry. Not surprisingly, there is no general agreement on what constitutes information literacy. The American Library Association (ALA) offered one of the most widely used definitions: “a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (ALA, 1989). While the ALA conceptually separated information literacy from information technology skills (e.g., using
computers, Internet), in practice the two were often used interchangeably, at least for the remainder of the 20th century.

By the end of the 20th century, information literacy had become narrowly defined in terms of objectivist standards, performance indicators and outcomes for students as reflected in the guidelines of the Association of College and Research Libraries (2000). However, early in the 21st century, efforts to broaden the definition have been increased based, in large part, on workplace research (e.g., Lloyd-Zantiotis, 2004; Lloyd, 2007) which has found that information literacy relates not only to textual information, but also information associated with social and physical experiences.

Indeed, a close reading of Zurkowski (1974) reveals that the objectivist interpretation, as evidenced in the guidelines of the Association of College and Research Libraries (2000), was not what the father of information literacy originally proposed. Instead of viewing information as something than can be measured externally, Zurkowski adopted a constructivist view towards information:

Information . . . is concepts or ideas which enter a person’s field of perception, are evaluated and assimilated reinforcing or changing the individual’s concept of reality and/or ability to act. As beauty is in the eye of the beholder, so information is in the mind of the user (Zurkowski, 1974, p. 1).

Furthermore, he proposed that “the information seeking procedures of individuals are different at different times for different purposes . . . [embracing] the totality of explicit physical means, formal and informal, for communication of concepts and ideas” (Zurkowski, 1974, p. 1). At any time, “information has value in direct proportion to the control it provides him [the user] over what he is and what he can become” (p. 6). Information literates, therefore, were those individuals who had “learned techniques and skills for utilizing the wide range of information tools as well as primary sources in molding information solutions to their problems” (p. 6).

In addition to education, Zurkowski (1974) also included business and workers in his examples of where information literacy might be employed. Recently, there have been a small but growing number of studies in that area (e.g., Oman, 2001; Cliftlands, 2005; Kirton & Barham, 2005; Lloyd, 2005). Again, Lloyd’s work is significant in that her
study’s findings support Zurkowski’s more inclusive view of what constitutes information sources:

In the workplace, the shape and focus of information literacy changes, because people and their experiences of practice become valued as primary sources of information, in contrast to the educational context where text (print and digital) is valued as a primary source. In the workplace, the interaction between people relates strongly to developing inter-subjective meaning, which allows groups to work in consort and develop collective competency (Lloyd, 2005, p. 232).

While Zurkowski (1974) made frequent references to individuals’ and social settings, the report did not explicitly include examples of information literacy in everyday life, i.e., community settings. This is understandable given that the report’s intended audience was libraries, industries and government. As the name suggests, ‘community information literacy’ (CIL) is “the application of information literacy in community contexts” (Partridge, Bruce & Tilley, 2008, p. 111). CIL is still largely an emerging field of study (Lloyd & Williamson, 2008; Partridge et al., 2008). Thus, “although [information literacy] is important in community settings [such as retirement communities], it is barely recognized as a research area” (Williamson & Asla, 2009, p. 77).

**Affective information.** In LIS, “considerations of ‘affect,’ which more broadly includes emotion, mood, preference, and evaluation, are increasingly viewed as central to the user-centered perspective” (Julien et al., 2005, p. 454). Early on, Tom Wilson (1981) recognized that affect plays a central role in information needs: “Affective needs may give rise to cognitive needs; and problems relating to the satisfaction of cognitive needs (such as a failure to satisfy needs, or fear of disclosing needs) may result in affective needs (for example, for reassurance)” (Wilson, 1981). Kuhlthau (1991) incorporated affect/emotions into her information search process (ISP): “While purely cognitive conceptions of information need are adequate for some research purposes, consideration of the affective dimension of users’ problems is necessary for a model to address a wider, holistic view of information use” (p. 362).

To date, the majority of LIS studies incorporating the affective dimension have been involved in the study of students and professionals and most have centered on computer/Internet use. For example, Meghabghab (1995) studied inexperienced school
librarians struggling to learn how to use online databases. James and Nahl (1996) studied senior college students learning to use the Internet. Later that same year, Nahl and Tenopir (1996) reported on the emotional states of novice database users. Wang, Hawk and Tenopir (2000) studied the web experiences of 24 graduate students. The affective states of children and graduate students engaged in online search were explored by Bilal and Kirby (2002). Julien (2007) studied library patrons using the library’s public computers.

Indeed, the focus of research in the computing area has given rise to the umbrella term ‘affective computing’, that being defined as “computing that relates to, arises from, or deliberately influences emotions” Picard (1997, p. 3). Most recently, Nahl (2005a) proposed ‘affect control theory’ in relation to information appraisal.

There are a number of points which can be made about LIS affective research. First, the focus has largely been on students and professionals; little (if any) of this research has examined older adults, much less those in the Fourth Age. Second, most of the research has been computer/Internet focused; in other words, the research has been micro- rather than macro-centered. Finally, the majority of the research has examined negative emotions (e.g., frustration, anxiety, fear), not positive emotions. However, as mentioned earlier, Vaillant (2008) noted that while negative emotions may be invaluable motivators in the short term, positive emotions are long-term survival mechanisms and we may, therefore expect to see more positive emotions manifest among individuals who have survived into the Fourth Age.

*Information grounds.* The two retirement communities were purposefully designed to provide a wide-range of services (e.g., dining rooms, fitness areas, conversation areas, libraries) under one roof. Intentionally or unintentionally, these areas held the promise of also being information grounds. The term ‘information ground’ was defined by Karen Fisher (nee Pettigrew) as an “environment temporarily created by the behavior of people who have come together to perform a given task, but from which emerges a social atmosphere that fosters the spontaneous and serendipitous sharing of information” (Pettigrew, 1999, p. 811). So, for example, someone might wait in the lobby of the retirement community until the dining room opens for dinner and share information with other residents while they are waiting.
Proposition 1: Information grounds can occur anywhere, in any type of temporal setting and are predicated on the presence of individuals.

Proposition 2: People gather at information grounds for a primary, instrumental purpose other than information sharing.

Proposition 3: Information grounds are attended by different social types, most if not all of whom play expected and important, albeit different roles in information flow.

Proposition 4: Social interaction is a primary activity at information grounds such that information flow is a byproduct.

Proposition 5: People engage in formal and informal information sharing, and information flow occurs in many directions.

Proposition 6: People use information obtained at information grounds in alternative ways, and benefit along physical, social, affective, and cognitive dimensions.

Proposition 7: Many subcontexts exist within an information ground and are based on people’s perspectives and physical factors; together these subcontexts form a grand context (Fisher et al., 2004, pp. 756-757).

The notion that there are locations where individuals gather information casually from one another while engaged in a shared activity (e.g., having their hair done at a hairdresser) is a concept that had proven to be effective elsewhere:

Examples documented to date include the dissemination of health and human services information (e.g., breast cancer and HIV/AIDS) at community clinics and hair salons in Canada, the southern and the northwestern U.S., as well as in master huts in Indonesia, children's story-time hours at Ontarian public libraries, bicycle shops for teenagers in South Seattle, community technology centres in rural Washington, and literacy skill centres in Queens, New York (Fisher et al., 2005).

2.6 LIS theory-based studies of older adults

Of the many LIS theories and models that have been proposed, only two were initially based on studies of older persons: Chatman’s theory of life in the round (1999) and Williamson’s (2005) ecological theory of human information behavior. Chatman (1991, 1992) used network theory as the basis for her study of life in a retirement community, focusing on the social context of the cloistered environment. Williamson (1998) used ecological theory to provide a framework for her original ecological model of
information use based on a major study of the information behaviors of older Australians living in the community at large. Following further studies, she subsequently expanded her model into a theory, which she named the ecological theory of human information behavior (Williamson, 2005).

2.6.1 Chatman’s life in the round
Chatman (1999) based her theory of life in the round on earlier studies she had done on what she termed the information poor, including single women living in a retirement community (Chatman, 1991, 1992). Chatman described the retirement community that was the location of her study as “eerie in its fastidious withdrawal of information” (Chatman 1999, p. 207). Chatman offers an explanation for this withdrawal:

Their world is one in which the information needs and its sources are very localized. For another, it is one in which outsiders are usually not sought for information and advice. And it is a world in which norms and mores define what is important and what is not (Chatman 1996, p. 205).

The name of the theory, ‘life in the round’, refers to the fact that

In the process of learning to live among strangers, they [the residents] were experiencing a redefinition of their traditional roles . . . they found that social values and norms which had sustained them previously were not sufficient to enhance their living among strangers . . . Their] private views were subsumed by open communal living which determined appropriate behavior. (Chatman, 1996, p. 204)

Chatman (1996) defined such a closed society as a ‘small world’ within which “mutual opinions and concerns are reflected by its members . . . In its truest form, a small world is a community of like-minded individuals who share co-ownership of social reality” (p. 213).

Influenced by networking theory, Chatman emphasized the major role of social location in such a small world: “location determines which everyday things require significant concentration and which require no concentration at all” (Chatman 1999, p. 210). Chatman (1999, p. 210) acknowledged that her thoughts were influenced by the work of Wilson. One also cannot help but notice that they closely mirror ecological theory that views human development as “an ongoing interaction between the individual and the
social contexts and social groups with whom the individual interacts” (Blum, et al., 2001, p. 53). Chatman outlines six propositions:

Proposition 1: A small world conceptualization is essential to a life in the round because it establishes legitimized others (primarily ‘insiders’) within that world who set boundaries on behavior.

Proposition 2: Social norms force private behavior to undergo public scrutiny. It is this public arena that deems behavior—including information-seeking behavior—appropriate or not.

Proposition 3: The result of establishing appropriate behavior is the creation of a worldview. This worldview includes language, values, meaning, symbols, and a context that holds the worldview within temporal boundaries.

Proposition 4: For most of us, a worldview is played out as life in the round. Fundamentally, this is a life taken for granted. It works most of the time with enough predictability that, unless a critical problem arises, there is no point in seeking information.

Proposition 5: Members who live in the round will not cross the boundaries of their world to seek information.

Proposition 6: Individuals will cross information boundaries only to the extent that the following conditions are met: (1) the information is perceived as critical, (2) there is a collective expectation that the information is relevant, and (3) a perception exists that the life lived in the round is no longer functioning (Chatman, 1999, pp. 214-215).

Thus, Chatman concluded that, in a small world, “an individual’s reality is a socially constructed reality” (1999, p. 215). This cultural reality may be reinforced by the fact that individuals seek retirement communities that already share their personal values and background (Osgood, 1983); they are already predisposed to support and enforce the existing culture.

2.6.2 Williamson’s ecological model of human information use

In addition to the ecological theory of behavioral psychologist Urie Bronfenbrenner, Williamson was influenced by key LIS theorists such as Brenda Dervin and Tom Wilson. However, she could not find an LIS theory that provided a complete picture of older people’s information-seeking behavior. She therefore developed her own model (Williamson, 1995, 1997, 1998), which drew on personal constructivist, social constructionist and ecological theories. Central to Williamson’s model was the view that
not all information is obtained through ‘purposeful information seeking’ (PIS); rather, a considerable proportion is discovered by chance as people engage in other activities such as talking to friends or from the mass media (Williamson, 1998, p. 23). Following Wilson (1977), Williamson termed this process ‘incidental information acquisition’ (IIA). Implied in the original model, but spelled out in a later publication which accompanied a broadened and refined version of the model, was the notion that there is a need to focus on “the relationship between information type/sources/systems and the information seeker/user [as] … it is from sources and systems that people usually seek or acquire information” (Williamson, 2005, p. 130). Third, there was also “a need to include information sources such as family, friends, and colleagues, who are not components of ‘information systems,’ but who play a significant role in incidental information acquisition” (Williamson, 2005, p. 130). Williamson’s original 1998 ecological model of information use is presented in Figure 2.1 below. As alluded to earlier, whilst developed from a study of older adults, Williamson subsequently applied the model successfully to a number of different populations, e.g., online investors, people with disabilities, and broadened and refined it as a result (Williamson, 2005).

Figure 2.1 Williamson’s ecological model of human information use

As explained in Chapter 2, the ecology theory approach involves studying the “the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate setting” (Bronfenbrenner, 1979, p. 21).

Williamson’s 2-D model of HIB (Figure 2.1) presents this process as a series of nested circles representing the HIB mesosystem and exosystem as well as the factors that influence them on the broader scale. Thus, the inner circles, intimate personal networks and wider personal networks, are the mesosystem, which may be defined as the aspect of the immediate setting with which the user directly interacts. The circles representing mass media and institutional sources such as physicians, lawyers and government agencies, are the exosystem with which the user rarely interacts directly. The outer items such as physical environments are the macrosystem; factors that shape and impact the user’s everyday environment and relationships, or what might be termed the ‘environmental press’ Sharlach (2009, p. 5). IIA was found in all of the information sources, save for institutional sources, which were almost always approached with intent and therefore usually only involved PIS.

Williamson (1998) did not mention affective information in her original ecological model. This omission was rectified in her revised and expanded ecological theory of human information behaviour (Williamson, 2005). Because the original (1998) model was directly derived from a study of aging, it is that model which is used here rather than the 2005 theory which applied to more generalized populations.

In 2012, another LIS theorist (Greyson, 2012) challenged the validity of Williamson’s model, arguing that it was not true to ecological theory at all. As the model proved to be central to my study, his criticisms warrant discussion:

Rather than depicting nested, interconnected systems and relationships … to illuminate the influence of social factors on human behaviour, Williamson’s ecological models portray the interactions between an individual and various information sources, rather than conceptually-nested and interacting themes and categories among the levels (Greyson, 2012, p. 3).

In order to increase the impact of LIS on public policy, Greyson (2012) argued ecological models should “reach beyond describing context to systematically mapping
Greyson’s (2012) article suffers from several serious flaws. First, he offered no example of what such an ecological model might look like or how it might differ from Williamson’s ecological model. Further, it can be argued that Williamson’s model can already accomplish exactly what he is calling for. Anyone attempting to map what Greyson (p. 1) termed “the hierarchical structures of relationships that influence human behaviour in context” must be flexible enough to allow for what Bronfenbrenner himself termed “the changing properties of the immediate setting in which the developing person lives” (Bronfenbrenner, 1979, p. 21). Williamson’s macrosystem, as shown in Figure 2.1 above, clearly provides that kind of temporal flexibility, allowing each factor in the ‘environmental press’ to play a greater or lesser role at any given moment in time. Thus, the thoughtful researcher hoping to sway social policy is free to study the factors in the macrosystem of Williamson’s model that are important at that given moment, all the while recognizing that what is valid today may not be as valid, or as important, tomorrow. Flexibility, not rigidity, is called for in an ecological model; real life is messy and not linear.

Finally, it should be noted that Williamson’s model does not limit itself to the study of a single user as Greyson would suggest. Williamson (1995) clearly demonstrated that one may consolidate the findings from a number of individual users to examine what Greyson (2012, p. 3) termed “the influence of social factors on human behaviour”.

### 2.7 LIS empirical aging studies of older adults

Medical geriatric research in the US can trace its roots back at least as far as the 1930s, and gerontology back to the 1960s. LIS interest in aging is much more recent. Systemic library studies in the US only began the 1970s when public and institutional librarians noted the need to define library services to older adults and offer guidelines for librarians to use with them (ALA, 2008, p. 1). True LIS gerontological studies did not begin to appear in the major English-speaking LIS journals until the 1990s (e.g., Chatman, 1991; Williamson, 1998). Indeed, LIS gerontological research is still very much in a status nacendi, calling to mind the words Baltes used to describe early gerontological research in the 1960s and 1970s:
As scholars engaged themselves, they had to ask how to open a new field of scientific inquiry. What are the interesting questions about old age and aging? What are the proper methods? What can one expect of old age as a stage of life? How is aging related to earlier phases in life? (Baltes, 2000, p. 18).

As noted in Chapter 1, a content analysis of HIB research published from 1990 to 1998, Julien and Duggan (2000, p. 298) found that less than one percent listed aging as a subject topic. This omission was subsequently noted by Asla et al. (2006), Williamson and Asla (2009) and Williamson and Asla (2010):

The proportion of older adults, usually defined as aged 60 or 65 and over, is expanding rapidly in the populations of many countries of the world, leading to the expectation that they should have growing importance from a research perspective. It is therefore surprising that there have been few substantial studies of the information needs and behaviors of this group (Williamson & Asla, 2010, p. 3938).

Most of the LIS aging studies that have been done are listed below. However, the list does not include studies regarding older adults and the Internet/computers. These will be discussed in a later section. As alluded to above, it is difficult to categorize the HIB literature. Sometimes information needs, information sources, processes of information seeking and information use, and information literacy are discussed as separate components. Other times, the various components are discussed together. Here, the articles are divided under two major headings: (1) information needs and sources, and (2) information-seeking processes.

Finally, it should be noted that the findings of the LIS aging studies that were useful to the present research are discussed separately further on. All of the studies referenced immediately below in Sections 2.7.1 and 2.7.2 are included only for the purpose of providing a more complete overview of the state of LIS aging studies; they were of little or no value to the present study. This was due to the fact that they all used chronological age as their key independent variable when attempting to select homogeneous groups of ‘old’ participants. Butler’s repudiation of this method that he once enforced bears repeating here: “There is nothing magical or scientific about [65] … or any other number in defining old age” (Butler, 2008, p. 13).
2.7.1 LIS studies of older adults pertaining to information needs

In one of the earliest studies of the information needs of older people in Britain, Todd (1984) found that health and finance were the primary concern of the newly retired—individuals most apt to be in the Third Age, although this was never discussed. Todd also noted that the number of such studies could “still be counted on the fingers of one hand” and lamented “the lack of soundly based evidence on what older people perceive their information needs to be, the use they make of the information available and the barriers, real and imagined, between them and the information needed in retirement” (Todd, 1984, p. 29).

Subsequently, there was a small upsurge in LIS aging studies in the 1990s. In Great Britain, Tinker, McCreadie, and Salvage (1993) published an exploratory study of the information needs of elderly people, concluding that participants’ information needs included information about finances, housing and nursing homes, as well as other health-related issues. In the US, Jones, Morris, Morrow, Ries and Wekstein (1992) attempted to identify spontaneously mentioned needs and concerns expressed in 271 letters from a sample of the population of older adults. The results indicated that the needs and concerns may be understood “in terms of three underlying dimensions: (1) improving the quality of life vs. securing the necessities of life, (2) health-related vs. non-health-related, and (3) individual vs. societal responsibility” (Jones et al., 1992, p. 227). Cavanah and Williams (1994) examined the information needs of 49 individuals aged 65 and older with regard to their information needs and adult education. The US LIS researcher, Hales-Mabry (1995) attempted to explore the information needs of older adults with regard to libraries. Su and Conway (1995) explored the information needs of elderly Chinese immigrants and the importance of younger, bilingual information gatekeepers. Barrett (2005) surveyed 1,634 older people in the United Kingdom regarding their information needs related to social service organizations. Getz and Weissman (2010) examined the information needs of 200 Israeli older adults, ages 52 to 92, with regard to legal and social services.

In summation, the above studies rarely attempted to build on earlier studies in order to develop a body of research. Research approaches and topics were widely disparate. As already mentioned, the only common thread was that all these studies used chronological age to define ‘old’ and largely assumed all older people were a
homogeneous group—an assumption that has been clearly refuted elsewhere in this chapter.

2.7.2 LIS aging studies of older adults pertaining to information sources and information-seeking processes

Both Todd (1984) and Tinker et al. (1993) found that family members and friends were important information sources. Goodman (1992) examined the communication channels preferred by older Americans, noting that “in some cases being older was a factor” with regard to lower information-seeking orientation (p. 701). Varley (1995) reported on the reading habits of residents living in an independent living retirement community. She found that reading, while evident among all age groups, peaked with the 80–89-year-old participants. Sit (1998) studied older adults’ abilities to use online library catalogs. The fact they were able to get to the library suggests these individuals were mainly in the Third Age. Linley (2000) examined the services United Kingdom libraries could provide in support of individuals in the Third Age, thus earning the honor of being the first LIS study on aging to employ Four Ages theory. She concluded libraries should deliver services that reflect the diversity of people grouped together as ‘old’. In Australasia, in addition to Williamson’s (1995, 1997, 1998) study, another study explored how educational teleconferencing improved the quality of life of 18 frail, housebound elderly aged 58 to 92 years (Swindell & Mayhew, 1996). They concluded that this was a promising approach but needed further evaluation. From the description, it is likely some or most of the participants in the Swindell and Mayhew study might have been members of the Fourth Age. However, there was little discussion of the participants’ continuing abilities to use technology. Baker (2006) employed content analysis to examine the autobiography of an elderly dying man and his wife in an effort to determine his information needs. The four categories were physical, emotional, spiritual and financial. Baker (2006, p. 78) noted that “library and information science (LIS) professionals have done very little research on the information needs and information-seeking behavior of people at the end of life”. Kubeck, Miller-Albrecht and Murphy (1999) compared the search skills of novice older Internet users and young novice users, thus touching on the issues of information technology and information literacy.
LIS studies examining how specific technological devices, a computer mouse for example, might best be adapted for older adult users is outside the scope of this study. Such studies generally focus on specific, technical concerns (e.g., range of motion) and overlook the broader issues of information needs and behaviors. Furthermore, such studies often continue the unfortunate practice of clumping all older adults into a single group under the heading of ‘old’. For example, Freil, Kabir, Noronha and Osborne (2011) reported on how accessible Skype was for six adults over the age of 65. Strictly focused on technology, the study made no mention of how Skype addressed information needs or social networks.

In their study of 309 older Finns, Niemelä, Huotari and Kortelainen (2012) felt their findings “support the notion that use of information and the media can motivate older adults to stay active in life” (p. 212) and that this should manifest itself in concrete observable actions. This premise, which the three authors termed ‘enactment’, further enhances Williamson’s concept of IIA, suggesting that information which is incidentally acquired could result in concrete observable actions.

As stated earlier, these studies pertaining to information seeking of older adults were of little use to the present study. There was almost no information specifically pertaining to the Fourth Age or even to the ‘Oldest Old’ (age 85 and older) which, as discussed earlier in the gerontological section, is the nearest chronological equivalent to the Fourth Age. Moreover, the majority of the participants in these studies’ were living independently in the community at large rather than being cloistered in retirement communities as were the participants in the present study. But most of all, these were of little use due to the fact that they treated all of their ‘old’ participants as monolithic groups —‘old’ generally being defined as everybody aged 65 years and older.

Change comes slowly, and this failure to correctly classify ‘old’ continues to this day. Niemelä et al. (2012) redefined ‘older adults’ as aged 60 years and older. Yet they cited Asla et al. (2006) and Williamson and Asla (2009)—two articles that clearly identify the problems that arise from using chronological age to define ‘old’.
2.8 LIS aging studies of value to a study of the Fourth Age

Reports in the literature that were of significant value were the oft-mentioned works of Chatman (1991, 1992), Williamson (1995, 1997, 1998), and Wicks (1999, 2001, 2003, 2004). While only Williamson segregated her participants by age groups, Chatman’s and Wicks’ works are of value as they were set in retirement community environments. Wick’s work was of particular interest as it investigated the use of computers and the Internet, an information source not included in the earlier works of Chatman and Williamson.

2.8.1 Chatman (1991, 1992)

Chatman (1991, 1992) did not segregate the ages of the 55 women (average age 82) in her two-year ethnographic study of single women. However, the study is significant because it was the first, and to date the major, LIS study conducted in a retirement community setting. The study focused on “interpersonal transactions that assist the individual in meeting problems” (Chatman, 1992, p. 33) and drew on the social networking literature (e.g., Bott, 1957; Hoyt & Babchuk, 1983).

Information needs. Chatman (1992) found support for six major areas of need identified from her literature review: (1) dealing with loss, including loss of material possessions, friends and family, familiar and known surroundings, health, and control over one’s life events; (2) death and dying, pertaining not only to one’s own death but to the death of loved ones; (3) the aging process, with the first dimension concerned with maintaining a high level of involvement in social and personal interests, known to be important in successful aging; and the second concerned with sexism due to the unequal standards applied to men and women with regard to physical attractiveness as they age; (4) uncertainty about the future, focusing on worries such as being a burden on others; (5) fear of crime, particularly affecting women; and, (6) loneliness, again particularly acute for women who are four times as likely to be widowed as men.

Chatman confirmed these broad areas in her own research but also found that the women also had significant needs in such areas “as health, financial problems, and general news about activities in which one could become involved” (Chatman, 1992, p. 78). Other typical conversational topics centered on local interests related to their
cloistered lives within the walls of the retirement community, such as recent deaths or hospitalizations, and upcoming social activities (p. 122).

**Three levels of information sharing.** Chatman (1992, pp. 125-126) identified three levels of information and related information sources. The first was information of a general nature, which she termed ‘chit chat’, that might be freely shared. This included such ‘safe’ topics as local news events, recent TV programs, shared life experiences, and subjects related to life within the community. She termed this ‘first-level information’. Among the most common sources of this information was mass media: radio, newspapers, books and magazines, and—most especially—television.

When it came to more sensitive, ‘second-level information’, e.g., personal finances, problems with other residents, or legal matters, Chatman found that her residents turned to family members as information sources. She concluded that discussing these matters with other residents was to risk losing face or social position.

The ‘third-level information’ she also termed ‘secret information’. As Chatman’s retirement community had no attached nursing center, a good example of this would be information that might result in the individual being sent away to a nursing home. Such information was generally shared only with professional caretakers such as doctors, lawyers or ministers who were seen as having an ethical mandate to respect confidentiality. Family members were generally not privy to this information, either out of a desire not to burden them, or out of concern for the consequences. Chatman (1996) subsequently noted that the data revealed that information of the most critical kind was not being asked for or shared. This finding . . . challenged a central argument in studies of everyday need and usages, namely, that people will share critical information with family, neighbors, and friends. Rather, my studies consistently showed that it is not just coincidence that information of the most needed type was not being shared (Chatman, 1996, p. 199).

As a result of these and similar observations, Chatman developed her theory of life in the round, discussed above.
Williamson (1995, 1997, 1998) undertook three interviews with each of the 202 participants in her sample and found that they acquired information both purposefully and incidentally. The sample was made up of 146 persons who were aged 60–74 (identified as young-aged), 44 persons aged 75–84 (old-old), and 12 individuals aged 85 and older (very old).

The last group (the very old) was of principal interest to the present study. At the present time, Williamson’s work regarding those aged 85 and older (the chronological age group most likely to be in or nearing the Fourth Age) provides the major data available to us on the information seeking, sources, and information needs of members of the Fourth Age.

*Information seeking or information acquisition.* Williamson identified two different aspects of information seeking. She termed these ‘purposeful information seeking’ (PIS) and ‘incidental information acquisition’ (IIA). Williamson found that PIS is likely to decline among those aged 85 and older, but that IIA, as described above, was very important to all of her sample of older people, including the oldest participants.

She also confirmed that people monitor their world for relevant information and that some needs are unconscious, becoming recognized only when relevant information is discovered. As mentioned earlier, Bates (2002b, p. 4) subsequently expressed a similar view.

*Information needs.* Williamson (1995, 1997, 1998) asked her 202 participants about their information needs (something they wanted to know about, understand, or was a topic of concern) in one of the interviews she undertook with them. Eighteen information needs, or topics of concern, were identified. Health was the number one topic for the sample as a whole. Williamson (1995) pointed out that this is “in accord with other studies of the information needs of older people” (p. 113). The second topic of concern was income and finance. Recreation was the third.

Other topics included government, consumer, housing and accommodation, retirement benefits (‘concessions’ in Australian terms), crime and safety, environment, pharmaceuticals, holidays, legal, transportation, family and personal, education,
employment, services (e.g., meals on wheels), and volunteer opportunities. For the present study, the comparison of the information needs of the three different age groups is particularly important as it demonstrates a continuing decline in information needs with advancing age, as presented in Table 2.1 below.

### Table 2.1 Need for specific topics by age as identified by Williamson

<table>
<thead>
<tr>
<th>Topics</th>
<th>Age Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>All age groups</td>
</tr>
<tr>
<td>Income and finance</td>
<td>All age groups</td>
</tr>
<tr>
<td>Recreation</td>
<td>All age groups</td>
</tr>
<tr>
<td>Consumer</td>
<td>The five who had not needed information were house-bound or in special accommodation (all VO or O-O)</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
<td>Most needed by VO (100%) and OO (92.9%); least needed by YA (83.6%)—not statistically significant</td>
</tr>
<tr>
<td>Housing</td>
<td>Needed significantly more by YA and O-O than by VO (p&lt;.05)</td>
</tr>
<tr>
<td>Transportation</td>
<td>Needed more by YA and O-O than by VO—not statistically significant</td>
</tr>
<tr>
<td>Crime and safety</td>
<td>Needed significantly most by YA; least needed by VO (p&lt;.01)</td>
</tr>
<tr>
<td>Environment</td>
<td>Needed significantly more by YA than by O-O and VO (p&lt;.01)</td>
</tr>
<tr>
<td>Legal</td>
<td>More diverse range of issues for YA and O-O than for VO whose interests focused on a more limited range of subjects, particularly estate planning</td>
</tr>
<tr>
<td>Employment</td>
<td>Needed significantly more by the YA than by the O-O and VO (p&lt;.01)</td>
</tr>
<tr>
<td>Holidays</td>
<td>Most needed by YA; least needed by VO (p&lt;.01)</td>
</tr>
</tbody>
</table>

YA = Young Aged (65-74); O-O = Old-old (75-84); VO = Very old (85+)

Adapted from Williamson (1995, p. 184)
Examining Table 2.1, it can be seen that, “on average, the very old [aged 85+] needed significantly fewer information topics than the old-old [aged 75-84] who, in turn, needed significantly fewer topics than the young aged [aged 60-74]” (Williamson, 1995, p. 251). Williamson concluded that the needs of participants aged 85 and older appeared to have diminished significantly except with regard to information pertaining to health, consumer, and pharmaceuticals. This conclusion is supported in the HIB literature by Marchant (1991).

**Information sources.** In developing her original ecological model of information use (Figure 2.1. above), Williamson concluded that no single information source could meet all of the information needs of her aged participants, including those presumably in the Fourth Age. In order of descending importance, Williamson found her older information users’ preferred sources for updating their cognitive environmental maps included:

- Intimate personal networks: family members, friends, and neighbors.
- Wider personal networks: organized groups such as clubs, churches, and voluntary organizations to which the user belonged.
- Mass media: television, radio, newspapers, books, magazines, and printed information such as brochures and ‘junk mail’.
- Institutional sources: Professionals (e.g., health care workers, social workers, and medical, legal, and financial specialists), government departments, local agencies on aging, libraries, and information centers, and other professional organizations (Williamson, 1998, pp. 31-34).

Williamson concluded that the older information user might engage in purposeful information seeking with all of these information sources. Likewise, he or she might incidentally acquire information from intimate personal networks, wider personal networks, and mass media. However, Williamson believed the older information user rarely acquired information incidentally from institutional sources.

**Information literacy.** Williamson did not specifically address information literacy (IL) in her original work. However, when she and I co-authored an information literacy
article in 2009, we were able to use her previous research by making a comparison to information seeking. The article, ‘Information Behavior of People in the Fourth Age: Implications for the Conceptualization of Information Literacy’ (Williamson & Asla, 2009), also drew upon other earlier HIB research that had relevance to the subject, as well as my own ongoing doctoral work. We reasoned that while there may be major differences between information literacy and HIB research, there are similarities:

For example, whereas a researcher focused on information seeking might examine preferences for information sources, an IL [information literacy] researcher might be interested in abilities needed to use particular sources, which affect source preferences. With the former researcher, once preferences for information sources are established, the kinds of abilities and skills needed to use those sources can be considered—thus moving an information-seeking study into the IL arena (Williamson & Asla, 2009, p. 77).

After reviewing the literature, we concluded that information literacy is relevant to the Fourth Age, but “it needs to be considered differently for this stage of life” (p. 81). Thus, as discussed in Chapter 1, I proposed that any HIB definition of successful aging in the Fourth Age would need to involve compressing information literacy through ‘SOC’—selectivity, optimization and compensation. Members of the Fourth Age need to select those personal goals that are most important to their continuing sense of personal fulfillment and zest for life. Then they need to regularly practice those existing information skills that will help them optimize their efforts to address the information needs that arise from the pursuit of those goals. Finally, they must be able to compensate for any future losses that impinge on achieving these goals by having access to third parties and adaptive technologies.


Wicks (1999, 2001) may be considered a single study conducted in two phases. Wicks, (2004) combined the two earlier studies into a single report, titled ‘Older Adults and their Information Seeking’. Both projects looked at “information seeking in relation to both everyday life roles and social networks” (Wicks, 2004, p. 2). Wicks (1999) used two SHLTC institutions as field sites, while Wicks (2001) examined the information seeking of older adults still living independently in the greater community. In accord with accepted practices at the time, Wicks (1999, 2001) originally relied on calendar age to identify his ‘old’ participants. It is a credit to his observational skills that he came
to the conclusion that “seniors do not conveniently fit into one monolithic group” (Wicks, 2004, p. 5) and went back and re-classified the participants in the two-phase study based on where they lived. He classified the participants in his 1999 study as either ‘young-old’ and ‘old-old’ depending on whether they lived in a residence that provided a low level of health care or a higher level of care. The participants in the 2001 second study were classified as ‘retirees’ as they were either aged 65 and older or had, in fact, retired. The 1999 study was the most useful to the present study.

Wicks (1999) interviewed 15 participants who resided at two retirement communities, one urban and one rural, in Nova Scotia, Canada. From his description, the rural retirement community would appear to have been what has been defined in this thesis as an independent living apartment complex. It employed minimal staff and provided only one main meal a day. The urban retirement community “offered a ‘high’ level of care, with nursing care available twenty-four hours a day and all meals taken in a common dining room” (p. 424). From this description, the second site was in all likelihood an assisted living facility or a nursing home, although Wicks did not employ either of those terms.

The ages of the participants ranged from 57 to 95, with more than half of the participants being over 80 years of age and only one below age 70. As with the other LIS aging studies cited above (with the notable exception of Williamson), the original 1999 study treated the participants as a homogeneous group. However, the services at the two facilities varied so greatly, that one may surmise that those living in the second community with the additional services were more likely to be in the Fourth Age, an argument that is supported by Wicks’ subsequent decision to label those participants the ‘old-old’ as noted above. This supposition is supported by Wick’s (1999) observations that the participants at this second site were considerably more cloistered than at the first site and apparently no longer drove personal vehicles:

- Residents at the first independent living site went out to a community church for services and events, while those at the second site attended church services at the facility.
Residents at the second site seldom traveled outside their building and, if they did go, it was usually a group outing using a van or bus.

Residents at the first site favored getting financial advice from their bankers, while the more cloistered residents at site two relied on the retirement community staff to manage their money. That is to say, the latter residents had given over primary control of their finances.

The more independent residents at the first site chose their own physicians, while those at site two used doctors who serviced the retirement community as a whole. Given that, in Canada, licensed care facilities have been required to have medical directors since the mid-1970s (Bethune, 2007, p. 18), this supports the supposition that the second site was either an assisted living facility or a nursing home.

Four of the residents at the second site were in their 90s; none of the residents at the independent living site were that old. This suggested a “lesser degree of health” (p. 432), further supporting the notion that the residents at the second site were more likely to have been in the Fourth Age.

**Information sources.** Wicks (1999) concluded that informal, interpersonal sources were preferred “for resident activities and for medical, financial, and travel information” (p. 430). For information regarding church, there was a balance between informal and printed information. “Often information was obtained from persons in a position of authority (as in reliance on staff by those who live in Residence # 2), or from persons in jobs that require some form of expert knowledge” (pp. 430-431). Wicks (2004) added the information that: “Family members are often used as sources or gatherers of information” (p. 8). Although he did not use the term ‘proxy information seekers’, *per se*, this supports the argument that older adults increasing rely on others to do their information seeking. Likewise, he noted that staff members “were singled out in both residences as being important channels of information” (Wicks, 2004, p. 10)—another area of interest to the present study, given that this finding appeared to contradict Chatman’s (1992) observations regarding her residents’ distrust of the employees.
Role identities. Ultimately, Wicks (1999) reported that different everyday roles did not “lead to some variety in information sources and channels used for those roles” (p. 431). He concluded that “the role theory approach may be well-suited to the study of workplace information seeking, but [is] not as useful for the study of information seeking behaviour in everyday, non-work environments” (p. 431). This may have been because he was focusing on traditional work roles. As discussed earlier, Osgood (1983, p. 33) identified new roles pertinent to life at the retirement communities, i.e., Organizers, Joiners, Socializers, Humanitarians, Recreationalists and Retirees. Wicks’ (2004, pp. 10-11) descriptions of the activities of his so-called ‘retirees’ and ‘young-old’ (from the second study) suggests they might well have fit into Osgood’s categories, had he applied them.

Computers. Wicks’ report on his two-phase study (Wicks 1999, 2001, 2003) discussed older adults’ use of computers and the Internet, as did Wicks (2004). Those findings are discussed in the next section.

2.9 Using computers and the Internet in the Fourth Age
Concerns regarding the ‘digital divide’ began to emerge in the late 1980s. It was considered that older Americans, never having used computers in school or at work, were in danger of being left out of the information revolution (Schwartz, 1988; Eilers, 1989). Indeed, as late as 1996, only two percent of Americans aged 65 years and older went online (Pew Research Center for the People and the Press, 1996). By 2010, 58 percent of Americans aged 65–73 were online and 30 percent of those age 74 and older (Zickuhr, 2010, p. 5). Zickuhr (2010) also reported the primary use among these older age groups was entertainment (i.e., watching videos, playing online games, visiting a virtual world). However, staying connected with social networks was also a powerful motivator (i.e., use of social network sites, sending instant messages, reading blogs). In terms of online activities, e-mailing and searching for information predominated. Searching specifically for health information, news and travel information closely mirrors the (pre-Internet) information needs identified by Williamson (Table 2.1 above).

In LIS, Wicks (2001) found that the most popular uses for computers were word processing and e-mail. However, in this study of 14 non-institutionalized older adults aged 57 to 87, Wicks noted that “the older adults examined in this study still strongly
preferred in-person contact and print resources over electronic delivery” (p. 161). Wicks (2001) questioned whether these preferences would remain the case as the baby boomers become the young-old and, two years later, Wicks (2003) found that a different group of participants did, indeed, prefer e-mail and web-searching to personal contact and print resources. In concluding this discussion of Wicks’ research into computers and the Internet, it must be noted that he also mentioned the use of proxy information seekers (not his term) to get information from the Internet:

The three non-owners/no Internet persons had access to computers through family members, and one specifically said he sometimes asked a family member to find information on the Web or to send or receive e-mail on his behalf. For the three non-users who had a computer at home, two relied on a spouse or other family member to use it for them (Wicks, 2004, p. 14).

Despite the dramatic increase in online use by older adults discussed earlier, a number of unresolved issues remain with regard to the use of computers and the Internet by members of the Fourth Age. As Wicks (2003, p. 195) noted: “The question of how much variables such as age or education tend to influence the digital divide remains open to investigation and debate”. Once again, many of these unknowns are a result of the all-too-familiar tendency of researchers to use calendar age to identify their ‘old’ participants, assuming they are a monolithic, homogenous group (e.g., Dinet, Brangler, Michel, Vivian, Battisti & Doller, 2007; Xie and Bugg, 2009; Eriksson-Backa, 2010). For example, it is unclear if Internet usage has any effect on perceived successful aging for members of the Fourth Age. In their paper, ‘Computer Use has No Demonstrated Impact on the Well-being of Older Adults’, Dickinson and Gregor (2006) reviewed the published literature. They opined that:

Technology is frequently presented as a panacea for the support needs of the ageing population, based in part upon the commonly-cited assertion that computer and internet use has an empirically verified positive effect on the well-being of older people (p. 744).

They concluded the studies did not support that conclusion and that the secondary literature that quoted them was oft times misleading due to a number of shortcomings, including “failure to distinguish between the effects of training/support and computer use; misattributing causality; [and] inappropriately generalizing results from a different population” (p. 744).
Supporting this view, an earlier study by Merrell (2001) found it necessary to clearly identify different senior populations. In an Internet study involving 292 older adults (average age 80.6), Merrell (2001) found that exposure to the Internet had no significant impact on positive attitudes towards aging among those who were in below average health; rather “positive attitudes towards aging and global optimism were associated only with independent Internet use, not classroom training” (p. 89). He concluded that those who perceived themselves as successfully aging were those who were most apt to apply the classroom lessons and be empowered to work independently. One may speculate this latter group largely consisted on those in the Third Age.

Lenhart (2003) had also found it necessary to sub-divide his older participants based on users’ personal attributes:

- Those who are socially content – who trust others, have lots of people to draw on for support, and who believe that others are generally fair – are more likely to be wired than those who are less content. There is also some modest evidence that those with positive and outward orientation towards the world are more wired than those who are worried about America and more focused inward.

- Those who feel they have control over their lives are more likely to be wired than those who feel they do not have much control of their lives.

- Those who read newspapers watch TV, and use cell phones and other technologies are more likely to use the Internet than those who do not (Lenhart, 2003).

Given that individuals in the Fourth Age have less control over their lives due to growing disabilities, it seems logical that computer/Internet usage might decline. As noted in Chapter 1, this was a matter of great importance to me as this could have an enormous social impact on the most rapidly growing part of our population. Therefore, one of this study’s goals was to ascertain whether or not declining health and cognition in the Fourth Age denied even the most experienced computer/Internet users in my study the continued ability to use familiar technology.
There was some justification for this concern. Merrell (2001) had noted that “declining health may diminish the quality of participation and the pleasure seniors derive from activities” (p. 87). Likewise, Namazi and McClintic (2003) reported that physical, cognitive and sensory losses presented the greatest challenges for their 24 participants (ages 68-95) when it came to computer. Wales (2004, cited in Williamson & Asla, 2010, p. 3941) “saw the Internet for frail and vulnerable older people (including those in day care centers and residential homes) as ‘a person issue before a technology issue’”. Similarly, Stark-Wroblewski, Edelbaum & Ryan (2007), following a study of 298 rural Midwestern US older adults, reported that “compared to those who did not use e-mail, e-mail-using seniors were younger and wealthier, less likely to report health-related limitations, and more likely to report being able to do things independently” (p. 293).

As noted by Dickinson and Gregor (2006), many of the above studies were small and the generalizability or transferability of their conclusions is difficult to ascertain. Furthermore, as many did not differentiate by chronological age or Fourth Age, it is impossible to categorically state that computer/Internet abilities decline or become impossible in the Fourth Age.

Still, there is additional evidence that physical aging and the social environment, rather than socioeconomic factors and education, are the major causes of information illiteracy with regard to computers and the Internet. At the beginning of the 21st century, individuals in the US with less education, lower income and racial/ethnic minorities all lagged behind in Internet usage (Lenhart, 2003). Furthermore, the gap was “most stark in the over-55 population” (Fox, 2004, p. 2). By August 2011, with the exception of age, those gaps had narrowed dramatically. Educational attainment was found to be much less of a factor and there was near-parity in Internet usage when it came to race and/or ethnicity (Zickuhr & Smith, 2012, p. 5). In addition to age, Zickuhr & Smith also found that social environment played a larger role than some might have thought:

Among adults who do not use the internet [sic] . . . most have never used the internet before, and don’t have anyone in their household who does. About one in five say that they do know enough about technology to start using the internet on their own, and only one in ten told us that they were interested in using the internet or email in the future (Zickuhr & Smith, 2012, p. 1).
This would suggest that any retirement community wishing to encourage computer/Internet usage would need to offer a high-profile service that provided demonstrable benefits and encouraged peer pressure. Personalized training and technical support services might also be required as skill levels might vary widely. As Merrell (2001, p. 5) discovered: “For some, simply learning how to turn on the machine was a Herculean task”. Merrell also observed that participants over age 80 were the ones most apt to find the computer training too challenging and drop out, again hinting that losses in the Fourth Age can impede usage.

All of the above reinforces the importance of studying the Fourth Age—the so-called ‘disability zone’—as a separate and distinct group. Likewise, consideration must be given to adapting information technologies to compensate for their losses whenever possible.

The use of assistive technology, such as large-print keyboards, can be greatly beneficial and can enable Internet use where it would otherwise be impossible (see, e.g., Williamson, Stillman & Bow, 1999; Williamson, Wright, Schauder & Bow, 2001; Williamson, Schauder, Wright & Stockfeld, 2002). There is no shortage of advice in the literature on interface design issues (e.g., Lähteenmäki & Kaikkonen, 2004). However, the mental and physical challenge of using even the simplest assistive technology may hamper communication/information seeking even when a person has been a regular and competent computer/Internet user in the past. Loss of vision in particular is thought to be particularly critical to information seeking (Williamson, Schauder & Bow, 2000). Several studies (e.g., Czaja & Sharit, 2009, p. 35) also suggest these problems could be due to declines in working memory, attention, and spatial abilities.

Finally, it appears the majority of non-users may be aware of public access locations. While it is unclear what percentage were older Americans, Lenhart (2003) found that 60 percent of non-Internet users knew of a place in their communities where Internet access was publicly available, as opposed to 76 percent of Internet users. “The most frequently identified location of public access is a library” (Lenhart, 2003, p. 4). However, knowing the location of public access computers does not translate into being able to access them; home-bound or cloistered members of the Fourth Age may know
there are computers at the public library, but as they are no longer able to drive, the computers may as well be on the moon.

2.10 Summary
A number of factors related to HIB in the Fourth Age may be gleaned from the foregoing review of the gerontological and LIS literatures:

- Aging is a global issue, fraught with as-yet-unexplored implications for life in the 21st century.

- Successful aging, at least in the United States, stresses life satisfaction and a continuing sense of personal well-being. There is one aspect of successful aging that may have an impact on HIB: if an older individual maintains his or her developmental goal(s) and continues to make plans for the future this would logically suggest a continuing need for information.

- The growing physical and cognitive losses that accompany the Fourth Age suggest the individual’s abilities to seek, process and share information may be severely compromised.

- Research has documented older adults’ need for positive affective information and its impact on memory retention. Thus, pleasurable emotions may reasonably be expected to help shape the information-seeking behaviors of those in the Fourth Age.

- Limited research suggests that moving to a retirement community may help compensate for some of the losses associated with the Fourth Age. Other ecologies surrounding the individual, e.g., cultural attitudes towards aging and loss of independence, and socio-economic circumstances, may also support individuals’ continuing abilities to actively engage in pursuits that involve some level of information needs.
LSDT in gerontology and the field of HIB complement one another in that they have many philosophical points in common (e.g., the importance of both quantitative and qualitative information).

In terms of the LIS gerontological literature:

- Early LIS literature on aging was limited to systemic reviews. HIB research that began to emerge in the 1990s has generally been flawed by the practice of using calendar age to define ‘old’ and, thus, treating all older adults as a single, homogeneous population.

- The two most useful LIS theories to have emerged from LIS aging studies are Chatman’s life in the round and Williamson’s ecological model of information use.

- Wicks (1999) provides circumstantial evidence that there may be a connection between being cloistered, no longer driving a personal vehicle, and membership in the Fourth Age.

- While Internet usage is growing dramatically among older populations, there is cause for concern that the physical, social and cognitive limitations that accompany the Fourth Age may render some incapable of using even the simplest technologies, regardless of prior experience and aptitude. However, race, education and income appear to play less of a role than was thought earlier.

In closing, it should be noted that two common threads have run largely unremarked upon through this chapter. Those threads—the underlying warp and woof of any research tapestry—are the assumptions that reality as we know it is either: a) largely constructed by the individual, as held by LIS researchers such as Dervin; or b) constructed by society (as proposed by Savolainen and others). Where this particular study stands with regard to this philosophical debate will be addressed in the next chapter.
CHAPTER 3: RESEARCH DESIGN AND METHOD

3.1 Introduction
This chapter outlines the research design and method I used for this study, beginning with the decision to employ a qualitative approach and the interpretivist/constructivist worldview that served as its philosophical foundation. I then discuss in detail the ethnographic method chosen for the research; the reason for selecting it; the choice of sampling technique; how the research was conducted, including how the data were collected; and how each component of the data was analyzed.

While a small quantitative component was included for purposes of triangulation—why this was done will be discussed below—the research was principally qualitative. Broadly defined, qualitative research is “non-controlling, holistic and case oriented, about processes, open and flexible, diverse in methods, humanistic, inductive and scientific” (Fidel, 1993, p. 219). A qualitative approach was well suited to exploring, in depth, the perspectives of the participants regarding their HIB and aging; what anthropologist Clifford Geertz (1973) described as ‘thick description’. Thick description “means that the researcher provides details when describing a case or when writing about a theme” (Creswell, 2012, p. 252).

Some researchers might argue that the qualitative approach to research does not need defending. After all, the qualitative tradition has its roots in the logical, rational and philosophical analysis of famous names such as Aristotle, Socrates, Weber, and Marx. Further, while it sometimes is described as ‘unscientific,’ it may lay claim to many scientific achievements (Glazier, 1992).

Still, the argument regarding the relative merits of quantitative or qualitative research is by no means over in health-related fields, where quantitative research of a positivist nature still prevails. Indeed, my 2010 search of the more than 20 million citations on the US National Library of Medicine website, PubMed, using the search term ‘qualitative research,’ identified only 11,965 medical and life sciences studies and books that had employed qualitative research methods. Thus, Black’s remarks remain almost as true today as when they were first published in 1994:
Aetiological and health services research are dominated by quantitative methods; research tends to be considered real and serious only when it uses these approaches. Quantification has acquired a bogus value—if something can be measured or counted it gains a scientific credibility often not afforded to the unmeasured or unmeasurable. Because of this, a finding or result is more likely to be accepted as a fact if it has been quantified than if it has not (Black, 1994, p. 425).

Given (2007) found much the same to be true in evidence-based library and information practice (EBLIP) in the biomedical field, noting that “qualitative research [is still] pushed to the edges of EBLIP . . . due to the imposition of inappropriate [quantitative] expectations” (p. 16). Still, the qualitative alternative to the perceived narrowness of quantitative research methods movement has been gaining ground even in medicine and related fields. This movement began in the early 1970s (Schwandt, 2000, p. 189). By the 1990s, there was a growing call for qualitative research both in health-related fields such as gerontology and in LIS. Until 1985 in the LIS field only 1.6 percent of researchers employed qualitative methods (Järvelin & Vakkari, 1993). The shift from systemic studies to user-centered research discussed in the previous chapter ushered in a greater emphasis on qualitative research in the LIS field. In health-related fields, Holman (1993) made a similar case for more qualitative research, arguing “the almost sole recognition given to quantitative methods has trained students inadequately, established flawed standards of practice and research, and delayed the development of essential . . . knowledge” (p. 29). The following year, Black (1994) summarized the case for qualitative research rather neatly:

There are some subjects that are [simply] better investigated using a qualitative approach. These tend to be complex situations where the relevant variables associated with an outcome are not apparent. This type of research aims to increase our understanding of what is going on (p. 426).

Others have described this process even more succinctly and eloquently as “putting a human face on the data” (Wang, Burris & Ping, 1996, p. 1395). Or, as Albert Einstein is said to have stated, “Sometimes what counts can’t be counted, and what can be counted doesn’t count” (Schwenker & Spreeman, 2009, p. 5).
It is important to note that qualitative research can be positivist or interpretivist, or a combination of both. The earliest ethnographers were positivist qualitative researchers who “asserted that through a scientific and rigorous analysis, universal truths could be discerned that lay beneath the superficial diversities of different cultures” (Saule, 2002, p. 179). Also, as Williamson, Burstein and McKemmish (2002) pointed out, post-positivists particularly place an emphasis on qualitative research to enable them to capture as much as possible of a reality which they see as elusive but possible to approximate through using qualitative approaches. The research for this thesis, on the other hand, has adopted an interpretivist qualitative approach.

3.2 The interpretivist worldview

Interpretivism argues in favor of multiple realities: that individuals and societies make their own sense both through personal experience and social values (Glesne, 1999; Williamson 2002). Although both positivist and interpretivist research can employ mixed data types (as does this study), the former approach is mostly quantitative in nature, while the latter mostly employs qualitative methods. Another key difference is that positivist research takes a deductive approach (beginning with a theory to be tested) while interpretivist research is inductive in its processes, developing theory from the findings of the research. As Williamson et al. (2002, p. 9) stated: “Researchers who are interpretivists favour naturalistic inquiry (where field work usually takes place in a natural setting) and are concerned with meaning.” The challenge lies in defining what is meaning (Schwandt, 2000, p. 206).

The origin of the term ‘meaning’, as interpretivists use it, goes back to a neo-Kantian reaction to the various forms of positivism espoused in the late 19th and early 20th Centuries. German interpretivist historians and social scientists made the case that the human sciences fundamentally differ from the natural sciences. Schwandt (2000) summarized their arguments as follows:

From an interpretivist point of view, what distinguishes human (social) action from the movement of physical objects is that the former is inherently meaningful. Thus, to understand a particular social action (e.g., friendship, voting, marrying, teaching), the inquirer must grasp the meanings that constitute that action (p. 191).

Fundamental to this is the argument that “a conscious brain must be engaged at some
point for information to be said to exist” (Case, 2012, p. 63). In other words, meaning exists because human beings have first classified the objects and entities. Thus, the arguments for studying information seeking in context (ISIC) discussed in Chapter 2 have particular significance.

The notion that we as individuals are constantly involved in reinterpreting our ever-changing world is a central tenet of interpretivism. Thus, the interpretivist researcher attempts to preserve and report the complexities of human behavior rather than offering up a simplified, reductionist view, that only measures and counts the occurrence of states or events (Stehbens, 1991). Such inductive research involves developing “concepts, insights and understanding from patterns in the data” (Reneker, 1993, p. 499).

3.2.1 The constructivist paradigm

The ongoing debate among psychologists and sociologists as to which is more influential in peoples' lives, their personal constructs of reality or those of the culture in which they live, cannot be resolved because the two are closely entwined. Nevertheless, the two interpretations do differ strongly with regard to the importance they assign to emotions, i.e., affective information, as will be discussed below. Finally, by adopting this paradigm, the researcher acknowledges that all definitions of ‘old’ are personal and social constructs. This, too, will be discussed below, along with the rationale for adopting the social construct of the Fourth Age for this study.

Personal constructivism. In The Psychology of Personal Constructs, the psychologist and educator George Kelly (1955) put forward the theory of personal realities, which he titled ‘personal construct psychology.’ His theory was subsequently elaborated upon by followers such as Maher (1969), Kenny (1984), Malhotra (2001) and, most significantly, by Bannister & Fransella (1986), who described it as “a theory which attempts to redefine psychology as a psychology of persons” (p. 4). They argue that, in contrast to the then-prevailing positivist approach of neatly separating the human psyche into specialty areas for the purposes of study and treatment, Kelly offered an integrated, complete psychological theory about the whole person. “In personal construct theory there is no dualism, no dividing up of the person into ‘bits’” (Bannister & Fransella, 1986, p. 114).
Further challenging then-prevailing positivist beliefs in scientific objectivity and behavioral psychology, Kelly’s (1963) ‘sense-making’ contended a person’s processes were “psychologically channelized” by the ways in which he or she anticipated events based on prior life experiences (p. 46). Thus, an individual’s construction of reality is based on comparing new information to past experiences in an effort to make sense of situations by choosing “that which will extend and define the [individual’s internal] system” (p. 64). By developing personal constructs, “individuals are not merely seeking certainty, nor are they anticipating purely for the sake of future events. Rather, through accurate anticipation of future events, they seek to be able to relate themselves to these events more effectively. As a consequence, “all of our present interpretations of the universe are subject to revision or replacement” (Kenny, 1984, p. 90). As constructs are specific to every individual, persons may be expected to differ from one another in their interpretation of the same events and how they construe them. In the personally constructed reality that exists within our minds, “each of us lives in what is ultimately a unique world, because it is uniquely interpreted and thereby uniquely experienced” (Bannister & Fransella 1986, p. 10).

Within this cycle of sense-making, the individual inevitably encounters an experience that does not conform to his or her personal knowledge of reality. Maher (1969) described this moment as “the threshold between confusion and certainty, between anxiety and boredom” (p. 152). LIS theorists subsequently described this as a perceived ‘gap’ in their knowledge (Dervin & Nilan, 1986), ‘an anomalous state of knowledge’ (Belkin, 1978) or ‘a state of uncertainty’ (Krikelas, 1983; Kuhlthau, 1993).

What role does society play in the construction of this personally constructed reality? Kelly (1963) suggested society’s influence might occur “through construing the experience of neighbors . . . [even though they exist] in altogether different subjective worlds” (p. 56). To the extent there is commonality in their construction of a shared experience, their psychological worldviews may be similar (p. 91).

However, this similarity of response to others does not mean shared agreement or full understanding. It only implies that an individual’s personal construct system gives that person a meaningful understanding of another’s construct system. “Individual reality is
tuned to the socially accepted interpretation and this process of an individual’s adjustments may entail considerable anxiety and unrest” (Malhotra, 2001, p. 8).

While Bannister and Fransella (1986) acknowledged that individuals are consciously and subconsciously shaped by their personal interpretations of the actions and reactions of others around them, they rebutted what they saw as the flaw in the social constructionists’ view that society primarily shapes our personal realities:

A person is free with respect to something and determined with respect to something else. In this way construct psychology avoids the determinist argument that puts the arguer in the paradoxical position of being a puppet deciding that he is a puppet (p. 6).

Thus, for true constructivists, the problem with social constructionism is that it “generalizes the person to a social or group identity . . . [so that] the self remains trapped in a system of social determination” (Goodheart, 1995, p. 323).

**Social constructionism.** Individuals’ personal realities are grounded in their societies’ construction of what constitutes ‘reality’—or so sociologists Berger and Luckmann (1967) argued in their highly influential work, *The Social Construction of Reality: A Treatise on the Sociology of Knowledge*. Social order was at the center of Berger and Luckmann’s argument for a socially created reality that must supersede individual reality. “Empirically, human existence takes place in a context of order, direction, [and] stability . . . That is, world-openness, while intrinsic to man’s biological make-up, is always pre-empted by social order” (p. 51).

Berger and Luckmann (1967) acknowledged that “society exists as both objective and subjective reality [and that] the individual member of society . . . simultaneously externalizes his own being into the social world and internalizes it as an objective reality” (p. 129). However, internalization is the key as it is the basis “first, for an understanding of one’s fellow men and, second, for the apprehension of the world as a meaningful and social reality” (p. 130). According to Berger and Luckmann, that internalization process closely resembles primary and secondary socialization, terms then in common usage in the social sciences (p. 205). Primary socialization begins at birth. The child internalizes the roles of those about him or her and takes on their world,
establishing a symmetrical relationship between so-called objective and subjective realities. Objective reality, as Berger and Luckmann (1967) used it in this context, meant the view of reality espoused by a child’s society, not objective reality in the positivist sense (pp. 131-135).

**Comparison of the two approaches.** Apart from the differences described above, personal constructivism and social constructionism have at least two things in common and one area where they differ quite markedly. First both hold in common the interpretivist perspective (discussed above). Challenging foundational epistemology, both argue that human beings create ‘reality’ in order to make sense of a world of nameless internal emotions and external phenomena. As Schwandt (2000) expressed it: “we invent concepts, models, and schemes to make sense of experience, and we continually modify these constructions in the light of new experience” (p. 197). Second, psychology’s constructivism and sociology’s constructionism find common ground in that both are attempting to describe the same phenomena as seen through the lenses of their respective disciplines. That is to say, researchers view their data through the “framework of basic assumptions with which perceptions are evaluated and relationships and values are delineated and applied to a discipline or profession” (Grover & Glazier, 1986, p. 234).

Where the two diverge dramatically is in the importance they attach to human emotions, or ‘affective information’ as it is often termed in LIS. As noted in Chapter 2, recent scientific evidence suggests older persons shape their social networks to find positive affective satisfaction (e.g., Fredrickson & Carstensen, 1990; Carstensen, 1991, 1993). However, while affective information appears to play a significant role as a motivator for change and re-examination in personal constructivism, the originators of social constructionism saw it to be of little importance after childhood. Berger and Luckmann (1967) viewed emotions as important in a child’s primary socialization process. “Indeed there is good reason to believe that without such emotional attachment to the significant others the learning process would be difficult if not impossible” (p. 132). However, they argued, emotions played a much smaller role in later life as individuals begin the “internalization of institutional or institution-based ‘sub-worlds’” (p. 158).
In strong contrast, personal constructivist theory views the transformation of information into knowledge that directs human action and performance as “an active, engaging process driven by feelings interacting with thoughts and actions. Affective experience plays a key role in guiding cognition and action throughout the construction process” (Malhotra, 2001, p. 14). This view of emotions as a key factor is supported by the research that is now emerging from the new fields of cultural anthropology, ethology and neuroscience (Vaillant, 2008).

The constructivist underpinnings of the present study. The most distinguishing personal factor of the Fourth Age is the individual’s diminishing physiological and cognitive abilities. More than any other factor, the continuing ability of the embodied mind to seek and process information determines information literacy as people age (discussed in Chapter Two). This is an individual, personal process. At the same time, the individual is part of society. Particularly in the cloistered world of a retirement community, the residents’ personal realities are likely to be influenced by that community. Williamson’s (1995, 1998, 2005) constructivist model of the user as physically embodied, and then socially embedded, is exceptionally germane to gaining a visual image of the challenges faced by the participants in the Fourth Age as they are confronted with the challenges of attempting to maintain their information literacy at a time in their lives when they are facing ever-increasing physical, cognitive and social losses, along with physical cloistering.

3.3 Choosing a research method

A quantitative/positivist or qualitative/positivist method was clearly inappropriate for this study as it was underpinned by a constructivist philosophy and the subjective views of the participants were central to the research. Lincoln and Guba (1985) have asserted that such studies should be conducted in the field, within the participants’ own ecological environments, and this was enabled by the retirement community settings. The ethnographic method was well suited to both the framework and the settings. The specific techniques that were employed will be discussed below, following a brief history of the development of the ethnographic research method.
3.3.1 History of ethnographic research

According to Bow (2002) there are two major components to ethnographic research: fieldwork and writing. First, fieldworkers observe a culture, subculture, or group for a period of time, in order to better understand certain aspects of their interaction and behavior. They use the medium of text to both describe and theorize on the nature of the topic under study.

Adler and Adler (1994) have made the case that Aristotle used observational techniques in his studies on the island of Lesbos and that Auguste Comte, the father of sociology, listed observation as one of the “four core research methods” (p. 377). Still, it is generally accepted that modern ethnographic research originated in anthropology, first emerging as the primary tool of cultural anthropologists during the 19th century when developed Western nations were engaging in global colonialism. Initially, observation and writing were largely separate acts; armchair anthropologists often wrote scholarly monographs interpreting faraway cultures based upon the subjective, personal memoirs of more intrepid explorers (Tedlock, 2007, p. 151). In time, however, anthropologists started “collecting data firsthand” (Atkinson & Hammersley, 1994, p. 249) by themselves living amongst the native populations. This presented its own challenges and the 1903 edition of Queries in Ethnography, firmly enjoined the amateur ethnographer that “in judging . . . native institutions there is no more common or fatal error than projecting one’s own civilized ideas on the minds of the uncivilized, and thus interpreting data under bias” (Keller, 1903, p. 8).

Two lessons may be drawn from this remark. First, while the inherent assumption of cultural superiority has diminished over the past century, the aim of ethnographic fieldwork remains fundamentally unchanged: “to study people in their native environment in order to understand ‘things’ from their perspective” (Baker, 2006, p. 78). The second lesson is that ethnographers, both then and now, need to be aware that their own cultural experiences of the world tend to shape their interpretation of events. This issue of researcher interpretation will come up again in the discussion of how the data for the present study were analyzed.

The ethnographic mainstream divided near the beginning of the 20th century when functionalist sociologists at the University of Chicago and elsewhere began to employ
ethnographic methods to study specific cultural issues closer to home, such as immigration, vice, racial discrimination, homelessness, suicide and mental disorders (Van Maanen, 1988). Thus they shifted the focus to rather “specific social and cultural issues” (Bow 2002, p. 266). The so-called ‘Chicago School’ dominated the intellectual and professional landscape of sociology from 1892 until 1942. Indeed, by 1930 it was said to have trained over half of all the sociologists in the world (Deegan, 2001). As time went by, anthropologists, sociologists, and other academic disciplines undertaking ethnography borrowed extensively from each other and a range of tools or techniques, such as interviews, focus groups and questionnaires began to be used (Bow, 2002). This increased the flexibility of modern ethnography by enabling the use of multiple tools and approaches, thus allowing researchers to “validate their eyewitness accounts through other forms of documentation” (Angrosino & Pérez, 2000, p. 676).

By the end of the 20th century, many disciplines in the social sciences had embraced this multi-tool, interpretivist ethnographic method, including cultural studies, socio-linguistics, education, folklore, geography, psychology, socio-linguistics, organizational management and marketing (Moeran, 2007, p. 4). In the process they applied their own terminologies and definitions so that today, “ethnographic research is alternatively labeled fieldwork, qualitative research, grounded research, participant observation, descriptive studies, phenomenology, case study, and interpretive research” (Malin, 1994, p. 9). Today either ‘ethnography’ or ‘participant observation’ can be used to describe data collection using a range of tools, the endpoint of which is to provide an in-depth exploration of particular social issues (Bow, 2002).

3.3.2 Examples of LIS ethnographic research

The works of Chatman (1991, 1992) and Pettigrew (1999, 2000) with regard to the elderly are considered by some to be among the most outstanding examples of LIS ethnographic research (Hartel, 2007, pp. 55-56). Chatman’s (1991, 1992) ethnographic study of retired, single women (discussed in Chapter 2) serves to underscore the difficulties some early LIS researchers encountered when attempting ethnographic research in a positivist scholarly environment. Although Chatman herself did not label her research ‘interpretivist’, she adopted an interpretivist worldview heavily influenced by Berger and Luckmann’s concept of social constructionism (Olsson, 2003, pp. 50-51). She also made use of thick description and abandoned ‘objective’ observation in favor
of participating in the daily activities of her subjects, all hallmarks of interpretive ethnography. But at the end of the day—perhaps out of a concern that she might not be taken seriously by her peers—she felt compelled to couch her conclusions in positivist terms, generalizing her results. Pettigrew (1999, 2000) employed ethnography in her study of information grounds and the importance of including contextual factors when studying HIB—a concept that was introduced in Chapter 2 and will be discussed again in Chapter 4.

How many other LIS researchers may have employed ethnography is difficult to determine as researchers have often failed to identify their methods. Of the 247 HIB articles published between 1993 and 2000 in seven international, peer-reviewed journals, only 39 were indexed by at least one method term (McKechnie, Baker, Greenwood, & Julien, 2002). Williamson has employed ethnographic techniques in a number of HIB projects since that time (e.g., Williamson and Kingsford Smith, 2010).

The present ethnographic study employed multiple tools at the two retirement community sites under investigation, including semi-structured interviews, observation to confirm and complement participants’ remarks and to verify possible information grounds, and the scrutiny of in-house documents management sent to residents (e.g., newsletters, program announcements) to identify the amount and nature of official communication between management and residents. Finally, a short quantitative instrument, the Life Satisfaction Index A (LSIA), was administered as part of the interview process. These will be discussed in detail below.

3.4 Research settings

Two retirement communities in a medium-sized Mid-western city were chosen for the field sites: The Midlands and Plaza Towers (not their real names). For purposes of triangulation, the two were comparable on paper in terms of number of residents and programs. Beyond that, however, there were significant differences that allowed for a more varied, richer sampling.

The first site was located in an affluent area of the city and was generally recognized as one of the city’s premier retirement communities. The Midlands was also one of the most expensive. According to its CEO, most applicants had “ample funds”, meaning
something in excess of one million dollars. All of the residents were Caucasian and many had been among the city’s ‘movers and shakers’ when they were younger. Official documents listed eligibility for admission as age 62. However, at the time I conducted my study, the average age of independent living residents at the time of move-in was 83.6 years.

Plaza Towers, the second site, was located in an area of the city that was predominately African-American. The facility, which was strictly independent living, consisted of an apartment complex for low-income seniors (defined as those aged 50 and older) that was physically attached to a neighborhood senior center that offered congregate meals as well as programs and activities. In order to qualify for the low-income apartments, Plaza Towers’ residents had to be capable of living independently and have an annual income of $24,000 or less. While predominately African-American, the population was much more racially mixed than at The Midlands. There was also a far greater range of ages and health conditions among the Plaza Tower residents—indeed, many still worked or were active in the greater community (i.e., in the Second or Third Age). The average age of independent living residents at the time was in the late 50s.

The two retirement communities were comparable in terms of the numbers served. The Midlands was home to about 185 independent living residents, Plaza Towers to about 155. The two sites were also comparable in that they both apparently offered many of the same services and amenities: apartment living, organized activities, one meal per day in a community dining room, and access to transportation and home health services. Both facilities boasted a fitness room, computer center or computer room, library, game rooms, art room, lounges, meeting rooms, conversation areas, and a multi-purpose auditorium/hall. However, there were several significant differences.

First, The Midlands had an attached 90 bed nursing home (i.e., a skilled nursing facility or ‘SNF’) and Plaza Towers did not. Plaza Towers’ community members, like the residents of Garden Towers in Chatman’s (1991, 1992) study, had to move out if they required the services of a nursing home. However, it should be noted that the term ‘independent living’ was interpreted more broadly at Plaza Towers than was probably the case at Chatman’s (1991, 1992) Garden Towers field site. Today, to help defray government expenditures, ‘independent living’ residents in low-income housing
facilities such as Plaza Towers can receive government-funded assistance with such activities of daily living (ADL) as housekeeping, dressing, and meal preparation. Twenty years ago, these individuals would probably have been sent to a nursing home.

Second, The Midlands had a much higher staffing ratio, reportedly the equivalent of one full time equivalent (FTE) staff person for about every three residents as compared to just three FTE staff for Plaza Towers with its 155 residents and three FTE for the attached senior center. (The local chapter of the American Red Cross provided the noonday meal in the senior center’s multipurpose room). This disparity in staffing was attributable, in part, to the need for The Midlands to provide around-the-clock care to the residents in its SNF as well as to having to meet the expectations of its more affluent residents. The greater number of employees serving independent living residents at The Midlands meant that it was able to professionally staff its dining room, fitness club, computer center, home health services, activities coordinator and a beauty salon, rather than having to rely on outside volunteers and agencies, as did Plaza Towers. Nowhere was this disparity more evident than in the two computer centers.

The Plaza Towers computers were located in the computer room in the attached senior center and classes were offered only when there were volunteers available to teach them. The senior center was closed after 5:00 p.m. and on weekends, so Plaza Tower apartment residents had limited access to the computer room.

In contrast, the computer center at The Midlands had two professional staff members. In addition to one-on-one computer training, they helped residents purchase and set up computer equipment and adaptive devices, and made house calls when a resident was having technology problems of any kind. For some 40 or so residents who could not, or who would not, use computers, the computer center staff set up and monitored e-mail accounts for them, including printing out e-mails in large print for vision-challenged residents who could then dictate their replies to a staff member. Additionally, the computer center employees helped residents write, publish and share their life stories.

3.4.1 Gaining access
Gaining permission to conduct fieldwork at the two facilities was not a problem. Once the study was explained to them and they had seen the documents previously approved
by the Charles Sturt University Ethics in Human Research Committee, the managers at The Midlands and Plaza Towers and their superiors were quite willing to grant permission. Indeed, they expressed a strong interest in anything that might come out of the study that would help them improve their programs.

This ease of entry was due to the fact that I had been employed at The Midlands for nine years before the project began and where my duties included working with its research center. Likewise, as a longtime member of the County Department on Aging Advisory Council that met monthly or more often at Plaza Towers, I was well known there as well. As a consequence of these associations, I had an established working relationship with the management at both field sites, based on mutual trust and respect. Other issues associated with my close links with the research sites are discussed elsewhere.

3.5 The sample
The size and composition of the sample for any study are very important, along with the manner by which the sample is selected. These components are discussed below.

3.5.1 Sampling method
Although ethical requirements in the two retirement communities meant that it was necessary to call for volunteers for the study, there was a sufficient response to enable the application of a type of purposive sampling called criterion sampling. As noted by Patton (2002), “the logic of criterion sampling is to review and study all cases that meet some predetermined criterion of importance” (p. 238). Indeed, Johnson, Dunlap and Benoit (2010) believed “one of the most important skills for ethnographers is the ability to … screen for ‘persons of interest’” (p. 654). Patton (2002, p. 46) defined such persons as “information-rich cases.” Selecting such information rich cases requires “a sample which is ‘balanced’ on a range of [criteria]” that matches the research questions and goals (Williamson, 2002, p. 231). As Thomas and Nyce (2001) said: “Trading consideration of a universal user for a more multidimensional, human information seeker within the context of everyday activities has proven to be of considerable value to theorists, educators, and practitioners within LIS” (p. 4).
3.5.2 Sample selection

A range of different criteria was used to select the sample from those who volunteered from the two sites involved. Criteria included gender, with an attempt to balance the sample on this criterion as far as possible. Chatman (1991, 1992) limited her study to older women. This was understandable, given the fact “female life expectancy has long exceeded male life expectancy, resulting in women outnumbering men in the older age groups” (Vincent & Velkoff, 2010, p. 8). However, for the present study it was considered important to include some males. With regard to racial mix and socio-economic criteria, including education and former occupation, the balance was to, some extent, enabled by the selection of vastly different sites for the study. Since I wanted to explore the role of computers and the Internet, I considered it important that about fifty percent of the sample be users thereof.

Overall, however, there were two fundamental criteria: one was that participants must reside at one of the two selected field sites; the other was that participants should be in the Fourth Age or be close to it in some respects.

**Criterion 1.** Members of the sample needed to be residents of one of the two independent living retirement communities. As will be explained in more detail in Chapter 2, ‘independent living’ refers to individuals capable of living with only minimal assistance, to wit: housekeeping, maintenance, meals, transportation and home health. This level of definition is critical in a study of this sort as the scope of services offered in a retirement community often vary widely depending on the time frame and geographic location of the field site. For example, I was working in the SHLTC industry at the time Chatman (1991, 1992) was conducting her research in what appears to have been an independent living retirement community setting. As I recall, at that time ‘independent living’ truly meant *independent* living and such retirement communities offered far fewer services than they would today. Thus, one can speculate that it was the lack of today’s on-site home health services that led Chatman’s participants to conceal their growing health issues because their only option for services was moving to a nursing home. (See Chapter 2, Section 2.81.)

**Criterion 2.** Originally, the second criterion was simply that participants be members of the Fourth Age, as defined by the physical, cognitive and social losses discussed above.
However, the US Healthcare Information Portability and Accountability Act of 1996 (HIPAA) would permit the retirement community to share such health-related information only with the prior authorization of the resident. Such a lengthy process was beyond the time, budget, and staff limitations of this study; another method had to be sought.

As discussed in Chapter 2, the physical and cognitive losses associated with older persons ‘giving up the car keys’ often mirrored losses ascribed to the Fourth Age: declining vision and hearing, reduced physical abilities, chronic illnesses, and reduced cognition. Lyman et al. (2001) reported that driving restrictions among older adult drivers were often associated with increased functional impairments and vision impairments. Many older adults who had stopped driving reported greater motor deficits (e.g., difficulty walking up stairs, joint pain, coordination difficulties) and visual deficits than did older adults who continued driving (Persson, 1993; Ragland et al., 2004; Siren et al., 2004). The supposition that driving cessation was linked to entrance into the Fourth Age was further supported by Foley, et al. (2002), a two-year study that examined a nationally representative sample of 4,699 community-dwelling persons aged 70 and older. That study reported that:

the prevalence of driving declined sharply with increasing age, ranging from 88% of men in their early 70s to 55% of those aged 85 years or older. Among women, the prevalence of driving ranged from 70% among those aged 70 to 74 years of age to 22% among those aged 85 years or older . . . Driving cessation among elderly drivers . . . [has] shown stronger associations with measures of visual, physical, and cognitive functioning than with diagnoses of specific medical conditions and diseases (pp. 1285-1288).

Therefore, the revised criterion was that the participants be members of the Fourth Age as evidenced by the fact they had ‘given up the car keys’. As already noted, this so-called ‘driving test’ was well-suited to the sprawling, suburban-style, shopping mall-centered, Midwestern US city where this study took place. Even the most basic tasks, such as going to the grocery store, typically involved distances far too great to walk, and there was no mass transit worthy of mention. In cities with good mass transit and neighborhoods with grocery stores, restaurants, and entertainment within easy walking distance, this method might prove less useful.
Letters were sent to all of the residents, describing the project and inviting them to participate. Reviewing the resulting lists of volunteers, management at the two facilities helped identify potential ‘information-rich cases’, sharing what they knew about their computer and Internet usage and driving habits. Those people were then invited to participate in the study.

To test the assumption that there was a correlation between driving cessation and the Fourth Age, two outliers who still drove regularly were deliberately included in the study. If the ‘driving test’ was accurate, they should still be in the Third Age, (i.e., have none of the losses associated with the Fourth Age). Additionally, the decision was made to include two nursing home residents who were at the extreme far end of the Fourth Age. By using the Third Age drivers and the nursing home residents as bookends, and studying the participants for two years, I hoped to gain a picture of how individuals progress through the Fourth Age. When I did the interviews, I discovered that a number of my participants (whom management believed no longer drove) still drove occasionally. It was these participants whom I labelled as 'on the cusp'. As will be discussed in Section 4.3, this proved to be fortuitous as it shed further light on those participants’ progression through, the Fourth Age continuum over the course of the study.

The analysis of Fourth Age (and related) attributes, associated with the selection and description of the sample is included in the analysis section of this chapter. The description of the sample, itself, begins the findings chapter (Chapter 4).

3.5.3 Size of sample
In his analysis of qualitative studies conducted between 2002 and 2004, Thomson (2004) found that the studies involved an average of 24 participants (p. 4). While statistically satisfying, this begs the larger question of how many is enough when it comes to the sample size in a qualitative study? Marshall (1996, p. 523) saw this question as “related to the misapprehension that generalizability is the ultimate goal of all good research and is the principal reason for some otherwise sound published qualitative studies containing inappropriate sampling techniques.” An appropriate sample size for a qualitative study he argued “is one that adequately answers the
research question.” This view has been generally shared by others (e.g., Guba, 1978; Lincoln and Guba, 1985; Krathwohl, 1997; Locke, 2001; Goulding, 2002; Douglas, 2003). As Lincoln and Guba (1985, p. 202) stated:

In purposeful sampling the size of the sample is determined by informational considerations. If the purpose is to maximize information, then sampling is terminated when no new information is forthcoming from newly sampled units; thus redundancy is the primary criterion. Naturalistic sampling is, then, very different from conventional sampling. It is based on informational, not statistical, considerations. Its purpose is to maximize information, not facilitate generalization.

In planning for the study, it was ‘guesstimated’ that there might be a need to interview as many as 30 participants. However, interviewing could be discontinued earlier if no new data were forthcoming. The final sample consisted of 25 participants: fifteen from The Midlands and ten from Plaza Towers. Once the 15 interviews had been conducted at The Midlands, interviews began at Plaza Towers. Given the differences in race and socio-economic factors, I fully anticipated doing 15 interviews there as well. Surprisingly, race and socio-economic factors proved not to be as significant as anticipated. (This will be discussed in the Conclusions chapter.) When, after 10 interviews, I was no longer encountering any new information, my supervisor and I agreed interviewing at Plaza Towers could cease. As Lincoln and Guba (1985, p. 202) stated: “sampling is terminated when no new information is forthcoming from newly sampled units; thus redundancy is the primary criterion”. Who these participants were and how they were selected is discussed below.

3.6 Data collection
The data collection involved two key tools frequently used in ethnographic studies: interviews and observation. The advantage of this approach is that it provided opportunities to triangulate the data. For this study, data were gathered through semi-structured interviews with participants. Observation was concurrently used to corroborate these data as well as for identifying or confirming information grounds (described in Chapter 2). Because of my dual roles as director of the computer center and as a member of the research center at The Midlands, I had an opportunity to undertake extended observation at that location. This added considerably to the depth of the data that could be collected. In addition, a short quantitative instrument, the aforementioned LSIA, was administered as part of the interview process to help provide
another measure of successful aging (discussed below). Employing a quantitative instrument in a primarily qualitative (interpretivist) study such as this provided yet another means of triangulation, as espoused by Denzin and Lincoln (1998).

Discussions of how each of the instruments was pilot tested are included below. How the collected data were then analyzed is provided in a separate section further on in this chapter.

3.6.1 Developing and pilot testing the interview materials
The interview materials consisted of four parts: ethics materials (Appendix A), the quantitative LSIA instrument (Appendix B), a background information schedule (Appendix C), and an HIB interview guide (Appendix D). These will be discussed in detail below. Two general classes of questions were developed. Concrete questions were designed to elicit demographic-style information, e.g., gender, age, education and length of residence. Thematic questions were designed “to elicit extensive reports and stories about the focal topics of interest [such as social networks and information needs]” (Johnson et al., 2010, p. 9). The interview materials went through numerous revisions during the developmental process between the researcher and his dissertation supervisors, during which time the Charles Sturt University Ethics in Human Research Committee approved the ethics materials. With the principal supervisor present, the interview materials and the researcher’s interview technique were then pilot-tested with two participants. It was adjudged that the materials captured the information being sought and the two interviews were subsequently included in the study.

3.6.2 The interview process
Participant interviews were conducted at The Midlands beginning in 2005 and running through 2007. The interviews at Plaza Towers were conducted in 2008. The extended time period was due to the fact that I was working full-time and had to fit the interviews and transcription of the interviews into my 60–80 hour a week work schedule. Unless otherwise requested by the participants, the interviews took place in their apartments. Besides helping put them at their ease, this provided an opportunity to gather additional observational data. Married couples were interviewed individually.
An in-depth guided interview approach, using a semi-structured set of questions, was employed. Such a baseline qualitative protocol elicits “stories and accounts from respondents” (Johnson et al., 2010, p. 5). That is to say, the topics and issues to be covered were predetermined in outline form. This approach provided the interviewer with the flexibility to follow up on topics of interest and work questions into the conversational flow, making data collection systematic for each participant while permitting a more conversational and situational interview (Davis, 2001, pp. 5-6). The success of such interviews depends largely upon the interviewer’s ability to encourage his or her participants to “talk expansively on the main subject, raising topics within it” (Slater, 1990, p. 114) in order “to capture the respondent’s perspective on a situation or event under study” (Mellon, 1990, p. 55). The approach also permits the interviewer to explore other questions and issues that arise during the interview process. At the same time, a semi-structured interview guide helps ensure the interviewer remembers to address all of the items and that they are presented in a similar fashion to all of the participants. Overall, the semi-structured interview “is closer to the unstructured, in-depth interview than to the structured, standardised form” (Williamson 2002, p. 243).

I took care that the interviews were conducted in quiet, private locations where we would not be interrupted and other people could not overhear what was being said. Usually this was in the participants’ apartments. On the chance that the participant had hearing problems I was always mindful to sit close by and to face them so they could read my lips and took care to never put my hand in front of my mouth. I pitched my voice up or down and increased or decreased my speaking pace, depending on their responses. Where I was unsure they had understood me, I repeated the remark, phrasing it slightly differently.

Mindful that older adults often tire easily, the interview was designed to be completed in about one hour. The interviews in the study (the total process) consisted of four parts: reviewing the ethics materials; administering the LSIA; gathering background information; and the semi-structured guided interview related to the specific areas of HIB under investigation.

**Reviewing the ethics materials.** The ethics materials (Appendix A) consisted of printed background information concerning the nature of the research, contact information, and
a review of the participants’ rights. The Charles Sturt University Ethics in Human Research Committee had previously approved all of the materials. Copies of these introductory materials were given to each participant at the beginning of the interview and the interviewer then went through them item by item orally. The review process continued until all the participant’s questions had been answered to his or her satisfaction. If the individual then agreed to continue, he or she selected an alias for the study and signed and dated the consent form. The alias, or preferred code name, was the only identifying information recorded during interviews. The use of an alias helped assure participants that their responses would remain anonymous, thus encouraging them to speak candidly (Johnson et al., 2010). None of the participants who reached this point refused to participate. However, one individual who had volunteered to participate did back out prior to the interview for personal reasons that had nothing to do with either the study or me.

The introduction normally took about five to seven minutes during which I had the opportunity to evaluate the key informant’s vision, hearing, vocabulary level and establish a conversational tone for the remainder of the interview.

**Administering the Life Satisfaction Index A.** There have been several versions of the Life Satisfaction Index (LSI). The original LSIA comprised 20 items. The LSIB, containing 12 questions, is rarely used. A third version, the LSIZ, was proposed by Wood, Wylie and Sheafor (1969) with 13 of the 20 items from the LSIA. Finally, Adams (1969) recommended deleting two items from the LSIA, forming an 18 item version which he also called the LSIA. The 18 item version of the LSIA (Appendix B) was employed for the present study.

In order to gain an initial feel for a participant’s sense of successful aging, the LSIA was administered orally following the review of the ethics materials. As indicated earlier, life satisfaction had been previously selected as the operational definition of ‘successful aging’ for the present study. Life satisfaction itself has been defined as “a global assessment of a person’s quality of life according to his [or her] chosen criteria” (Shin & Johnson, 1978, p. 478). The LSI was originally developed as part of a major research project investigating older adult life in Kansas City, Missouri, by Neugarten, Havighurst and Tobin (1961). It remains one of most widely used and accepted quantitative
measures of self-reported successful aging among those aged 50 and older. The LSIA was designed to measure four key aspects of successful aging: (1) zest for life as opposed to apathy; (2) resolution and fortitude as opposed to resignation when it comes to accepting responsibility for, and control over, one’s actions; (3) congruence between desired and achieved life goals; and (4) high physical, psychological and social concept of self.

The LSIA has been widely employed as a useful self-assessment of successful aging (e.g., Adams, 1969; Wood et al., 1969; Sexton & Munro, 1985; Friedrich, 2001). Interestingly, its reliability appears to be unrelated to characteristics such as sample size, age or gender (Wallace & Wheeler 2002, p. 674). Still, some quantitative researchers have criticized the LSIA when the results of the self-reported assessments were compared to the findings of outside professionals (Turkes, 1999, p. 197). However, in a constructivist study such as this, the key participants’ personally constructed interpretations of reality were of primary interest. It was surmised that any disagreement between the LSIA results at the two field sites might prove useful in attempting to tease out themes and relationships between successful aging and HIB.

Administering the LSIA normally took five to seven minutes. Before beginning, I was careful to point out that there was no right or wrong answer. I administered the LSIA orally, rather than having the participant complete it in written form. All questions were administered in a value neutral voice and repeated as often as necessary. When orally administered, the LSIA has been shown to have excellent inter-observer agreement, meaning different observers have a statistically proven agreement level (Winer, 2008). Furthermore, orally administering the LSIA has proven to be valuable when attempting to obtain valid data from very old persons (Isaksson, Santamäki-Fischer, Nygren, Lundman & Aström, 2007, p. 576).

**Gathering of background information.** The background information instrument (Appendix C) was a semi-structured series of 25 questions and prompts that was designed to take about 20 minutes to complete. In addition to gathering basic demographic information (e.g., age, education, gender, marital status) it also was designed to identify prompts into information-related topics (“Think back on what we
were discussing earlier—”) that would be introduced later in the HIB interview guide (discussed below).

The life history approach, such as the backgrounder employed in the present study, is “one of the earliest and most popular narrative genres to be developed by ethnographers” (Tedlock, 2000, p. 459). It is a widely accepted ethnographic tool for gathering data and arriving at a participant’s personal meaning of life events.

The first several items on the background information checklist were a basic screening for mental competency: “For the record, please say your name, today’s date, and the location of this interview” and “What alias have you chosen?” Difficulty recalling this information that had been discussed earlier in the ethics information phase would alert me to the possibility of cognitive issues, such as Alzheimer’s disease. Protocol called for terminating the interview if further probing suggested the participant was not mentally competent to give his or her approval for the interview. This precaution might appear unnecessary as all but two participants were independent living residents, but it was adjudged best to err on the side of caution. It proved to be a wise precaution. One interview was politely terminated at this point due to concerns arising from inappropriate responses and apparent confusion. Subsequently, it was learned that the individual had been diagnosed with dementia even though she was still residing in independent living. In the case of two participants from The Midlands nursing center (the two at the far end of the Fourth Age), prior approval was obtained from the nursing home administrator who had power of attorney for health care matters.

The remaining 23 background information questions were arranged chronologically, beginning with the participant’s birth date and moving forward to the present day. Weir (2007) noted that this approach helped keep the interview on track, promoted memory recall and helped establish rapport.

In keeping with the research questions enumerated at the end of Chapter One, the questions were designed to begin eliciting data regarding the following:

- Information seeking with regard to moving to that particular retirement community and who made the selection, themselves or someone else.
• Self-reported physical, social and cognitive losses that would aid in assessing the participants place in the Fourth Age continuum.

• Personal losses, such as vision, which had impacted their ability to seek and process information as they did in the past, and how they have compensated for those losses.

• Recollection of social activities and organizations they participated in when they were in the Third Age (e.g., bridge club, volunteer groups) and those in which they presently participated. I speculated that activity participation results in a need to purposefully seek information (e.g., when is the next meeting?) as well as opportunities to incidentally acquire information. A reported decrease in activities, while subjective, would still provide an approximate indicator of shrinking information needs.

• Preferred information, based on the participants’ recounting of their daily activities.

• Whether or not they used computers and the Internet and, if so, what they used them for (e.g., e-mail, searching the Web, shopping) and if they employed third-party assistance.

• Size and nature of social networks, including the importance of other retirement community residents and employees.

• Examples of the types of information they sought and shared with other residents. As discussed above, Chatman (1991, 1992) reported that the residents of her retirement community only shared inconsequential information and avoided mentioning any health-related information out of fear of being forced to move to a nursing home.

• Locations within the retirement community that possibly served as information grounds (discussed in Chapter 2) to be verified later by observation.
• Examples of affect as information.

**Following the HIB interview guide.** After the life history backgrounder, I moved on to the HIB interview guide (Appendix D). This consisted of six questions that narrowed in on each participant’s current purposeful information seeking (PIS) and incidental information acquisition (IIA) (Williamson 1995, 1997, 1998). The questions concerned with information needs and information seeking related to: (1) the retirement community; as well as (2) areas of interest or need not related to life at the retirement community, i.e., pertaining to the outside world. As mentioned earlier, it was often possible to build on remarks, observations and incidents the participants had made during the earlier backgrounder portion of the interview.

Care was taken to define ‘information’, ‘purposeful information seeking’ and ‘incidental information acquisition’ in language understandable to the layperson. These key concepts were defined colloquially as part of the interview process with all of the participants:

• Information: “Anything that you feel you need to know, or just happen to learn, that you believe to be meaningful or useful to you.”

• Purposeful information seeking: “Where you have taken action to find information because you have been concerned about something, or you needed to clarify something, or you have been interested in something you wanted to know more about.”

• Incidental information acquisition: “We all happen across information from time to time—something we aren’t looking for but, once we learn it, we know it’s somehow meaningful or useful.”

This portion of the interview nominally took 30 minutes. However, it was not uncommon for it to take longer if the participants began to recall additional examples.
Discussing emerging themes. While the participants were offered the opportunity to review their transcripts (see Informed Consent Form, Appendix A), none of them chose to exercise this option. Consequently, I made it a point to informally visit with a number of them to discuss new insights and to seek their thoughts with regards to emerging themes. These meetings usually involved informally visiting with several residents over a cup of coffee and notes from these meetings were included in my observations (discussed below), rather than added to a participant’s interview.

3.6.3 Observation

Unstructured observation was used to corroborate and complement the data emerging from the interviews as well as to gain a personal feel for the context of the participants’ everyday lives in the retirement communities. Unlike quantitative research where structured observation is often conducted in controlled laboratory environments, qualitative research often employs unstructured observation:

Qualitative observation is fundamentally naturalistic in its essence; it occurs in the natural context of occurrence, among the actors who would naturally be participating in the interaction and follows the natural stream of everyday life. As such, it enjoys the advantage of drawing the observer into the phenomenological complexity of the world where connections, correlations, and causes can be witnessed as and how they unfold. Qualitative observers are not bound, thus, by predetermined categories of measurement or response, but are free to search for concepts or categories that appear meaningful to subjects. (Adler & Adler, 1994, p. 81)

These naturalistic encounters in the present study took place in lounges, dining rooms and other parts of the retirement communities where participants naturally gathered, as well as chance encounters in hallways.

The observer's role. Extensive observation data was crucial in the present study. Given that the participants were members of the Fourth Age with diminished cognitive and physical abilities, it was anticipated that the semi-structured interviews might result in less rich interview data than one might expect to find with younger populations. As shown in Figure 3.1, the possible degree of my involvement during the observation process has been presented as a continuum, ranging from completely detached to that of full participant (Glesne & Peshkin, 1992, pp. 16-17).
Glesne and Peshkin (1992) also noted that the researcher’s role may alter at “different points at different times in the data collection process” (p. 40). If one applies this classification system to the present study, at different times and places I assumed the role of participant as observer as well as that of observer as participant. In either case, such roles increase “the likelihood that the researcher will obtain key ‘insider’ information . . . [and also enable] the researcher to validate observations with the participants” (Roper & Shapira, 2000, p. 18).

This was a two-year longitudinal study. As noted previously, I was already well-integrated at The Midlands as both a member of the research center and director of the computer center. Likewise, the time I regularly spent at Plaza Towers made me a familiar face.

At the Midlands, being present in the lives of participants during the two-year field study afforded me an ‘observer as participant’ role which I saw as a singular advantage. I already had strong rapport and trust established with my participants through my years of work in the retirement community. On an almost daily basis, I had the opportunity to chat with participants, both individually and in groups, hear them chatting with one another, and observe their activities. In my role as a staff member I also had an opportunity, at times, to stand back and be detached, thus enabling me to alternate between insider and outsider roles, as Spradley (1979) and others have discussed.

As already discussed, I visited Plaza Towers regularly as a member of the County Department on Aging Advisory Council. During the eighteen months I was doing my interviews at The Midlands, in addition to coming early to Council meetings, I also made it a point to drop into Plaza Towers at least several times a month to visit with management and residents in preparation for my interviews there. As the apartment complex and attached senior center operated on a 40-hour work week and were locked...
after 5:00 p.m. and on weekends, these visitations took place between 10:30 a.m. and 4:00 p.m., when residents and senior center participants were apt to be most active. No notes were taken during this ‘getting acquainted’ period; the intent was simply to become more familiar with the environment and begin to become a familiar face. When the interview process finally began at Plaza Towers in 2008, I became even more involved in that community’s daily life. I volunteered to teach a two-month class on digital photography in the senior center computer room. That afforded me an opportunity to assess the level of computer usage, as well as get a better feel for the organization of the center. During the following six months, I took part in monthly birthday parties, learned to play dominoes and spades (the two most popular activities at the Plaza Towers senior center), observed the noonday meals, and just spent time visiting and—most importantly—listening. In short, I tried to let the residents “be the main teachers and analysts” (Davis, 2001, p. 4). I made no secret of the fact that I was there to do research. That, and the fact that I came and went at irregular intervals, meant I was somewhat less integrated into the community at Plaza Towers than at The Midlands. Consequently, I felt myself to be more ‘observer as participant’ in my data collection there.

Race was never an issue at Plaza Towers. I always felt accepted even though I am not black. This might have been due to the fact that I was the same age as many of the residents, or because the Managers had given me their ‘seal of aproval’, or because Plaza Towers had a racially-mixed population, or because such things seem less important in the Fourth Age, or some combination of all of the above. Whatever the reason, in all of my interviews at Plaza Towers, only one person—Sonny—brought up the issue of racial prejudice. However, I concluded that Sonny’s remarks had to be taken with a very large grain of salt as he was the kind of individual for whom every problem or failure was always someone else’s fault.

**Recording observations.** “Forgetting begins as soon as the experience ends” (Ely, 1991, p. 79). Consequently, researchers have employed a number of different means of recording their observations, including keeping separate field notes and observer comments (Krathwohl, 1997, pp. 266-269), writing memos (Charmaz, 2003, p. 517), and even going so far as to sub-divide the material into observational notes, method notes, and theory notes (Chatman, 1992, pp. 16 and 17). I chose to employ both field
notes (Appendix G) and observer comments (Appendix H). I took written notes on site, which were later entered into Microsoft Word.

3.7 Data analysis
The analytical process was divided into three components: the collating and analysis of demographic data; the scoring of the quantitative instrument, the LSIA; and the coding and analysis of the qualitative data gleaned from the interviews and observations. These are discussed below, followed by remarks regarding the trustworthiness of the research.

3.7.1 Collating and analyzing the demographic data
All of the pertinent demographic data from the life history backgrounder was input into a number of Excel spreadsheets for analysis. In addition to basic information such as age, gender, location, marital status, financial condition, and education, the spreadsheets also recorded data that would help place participants on the Fourth Age continuum, e.g., whether or not they still drove, number of reported disabilities (Appendices J and K). Other spreadsheets analyzed the participants’ primary reasons for moving into a retirement community and whether or not they knew anyone at the retirement community when they moved in (Appendix L). This information was subsequently reviewed in light of the categories and themes emerging from the transcripts, and the LSIA scores, as a means of triangulation and possibly gaining further insights.

3.7.2 Scoring the LSIA
The standard two-point agree/disagree method of scoring was employed, with questions being rated 0 for a response indicating dissatisfaction and 1 for satisfaction. The participants’ responses to each question were entered into spreadsheets and then analyzed in terms of their places on the Four Ages continuum and their sites.

In terms of HIB, particular attention was given to the participants’ responses to the questions as to whether or not they had made plans for the future (“I have made plans for things I’ll be doing in a month or a year from now”; “I expect some interesting and pleasant things to happen to me in the future”). Research suggested a positive perception of the future was usually expressed through activities, e.g., Bryant, Corbett & Kutner (2003); Faircloth, Rittman, Boylstein, Young & van Puymbroeck (2004). From the HIB perspective, I speculated that residents who participated in planned
activities were more likely to have information needs and to exhibit information-seeking behaviors than those who did not.

3.7.3 Analyzing the interview data

Analysis of the interview data began by transcribing the recorded interviews into Microsoft Word. A professional medical transcriptionist transcribed nine interviews, while I transcribed the rest. I subsequently reviewed all of the transcripts for accuracy. The transcripts were then printed and re-read repeatedly. I also re-listened to the interview recordings to ‘put myself back in the moment.’ To further assist with recall, I sometimes wrote a brief synopsis of my impressions at the time of the interview (Appendix E), including a short description of the participant. The professional transcriber and I also made it a point to include ‘stage directions’ in brackets, e.g., [He laughs], as well as non-fluencies. (Appendix F).

In the process, I made notes and memos in the margins regarding what appeared to be key points. By so doing, it was possible to begin organizing key passages into categories. Morse (2008) suggested an approach different from the typical one of identifying themes and then categories. She proposed that the identification of categories should come first, with the themes later falling into place. As the number of categories increased, I organized them into a form of codebook. As I have trouble remembering numbers, I found it easier to use abbreviations, e.g., ‘+ AI’ for ‘positive affective information.’ As the categories were identified, it was possible to begin arranging them into larger themes.
Table 3.1 Theme: Information needs

<table>
<thead>
<tr>
<th>Categories</th>
<th>Sub-categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moving to a retirement community</td>
<td>Motivation, security and peace of mind, familiar faces and places, proximity to caregivers</td>
</tr>
<tr>
<td>Information needs of daily living</td>
<td>Health and fitness, medications, finances, family, mental stimulation, role identity, travel</td>
</tr>
<tr>
<td>Affective information</td>
<td>Need for positive information, spirituality, personal affirmation, control over life</td>
</tr>
<tr>
<td>Regarding the outside world</td>
<td>Events in outside world, sports, politics</td>
</tr>
<tr>
<td>Concerning the small world</td>
<td>Other residents, transportation, food, actions of management, events and activities</td>
</tr>
</tbody>
</table>

The next step was to develop voice sheets for each category and sub-category within a particular theme. Voice sheets are so named because they present the quotations, or ‘voices’, of participants and consist of selected participant quotations that illuminate specific categories and sub-categories identified within a particular theme. This technique had previously been employed by Williamson and her colleagues as a means of organizing quotations linked to themes and categories (e.g., McGregor & Williamson, 2005; Williamson, McGregor, Archibald & Sullivan, 2007). While I was writing up the findings of the study, the voice sheets facilitated the telling of the ‘story’ from the perspective of participants. I then added my observations to the analysis as described in the next section. Table 3.2 below presents the voice sheet for the theme ‘information needs’ and the category, ‘choosing a retirement community’. Quotations are provided for the four sub-categories: health, familiar faces and places, security and peace of mind, and proximity to caregivers. Please note that only quotations that especially illuminate the sub-category are included. Another example of a voice sheet can be found in Appendix G.
Table 3.2 Information needs: choosing a retirement community

<table>
<thead>
<tr>
<th>Sub-category</th>
<th>Quotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor health spurred the need for information</td>
<td>I had gotten old and I had gotten sick and I didn't like living by myself. So I thought, well, I’ll move into Plaza North (Christina, Plaza Towers).</td>
</tr>
<tr>
<td></td>
<td>My husband was losing his eyesight and I’d fallen and broken my darned back, so I was in a mess and needed help (Sunflower, The Midlands).</td>
</tr>
<tr>
<td>People want to know that their new neighbors will be like themselves</td>
<td>We are east side people. We’ve lived on this side all of the time and we’re familiar with it. It’s not such a big shake-up (Gloria, The Midlands).</td>
</tr>
<tr>
<td>People want to know that family caregivers are going to be close by and willing to help</td>
<td>[My husband] had a heart attack and my kids just said ‘You know it’s just too hard to help you guys. You need to come closer.’ We liked it where we were, but we thought, well, our kids want us out there and this isn’t always true, so maybe we’d better move (Nannah, The Midlands).</td>
</tr>
<tr>
<td>A need to know they and/or their loved ones will be safe</td>
<td>Where I used to live, the gangs would knock on the doors of elderly people and say “Give us money to pay us to leave you alone”. So I called my case manager … and she brought me straight to Plaza Towers (Jeannie, Plaza Towers).</td>
</tr>
</tbody>
</table>

3.7.4 Analyzing the observation data

My journal of observations was analysed into themes, categories and sub-categories which were mainly comparable to those for the interview data. In place of voice sheets, observation sheets were compiled. Table 3.3 is the observation sheet for the theme, information needs and the category, choosing a retirement community and the same sub-categories as in the voice sheet. Once again, this table includes only examples. The entire observation sheet—and other examples are in Appendix H.
Table 3.3 Observation sheet: choosing a retirement community

<table>
<thead>
<tr>
<th>Need</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>People want to know that their new neighbors will be like themselves</td>
<td>Almost all of the residents know somebody here when they move in, or they go to the same church or their kids went to school together (Marketing director, The Midlands).</td>
</tr>
<tr>
<td></td>
<td>This ‘alikeness’ information was often not verbalized, e.g., the color of the residents’ skin, their speech and dress and the built environment. “I can’t see myself there in my plaid shirt and jeans” (Mildred’s late husband, The Midlands).</td>
</tr>
<tr>
<td>People want to know that family caregivers are going to be close by and willing to help</td>
<td>All of the participants who moved from out of state did so in order to be near a family caregiver, often the oldest daughter. “We were living in California when my wife got sick. Our daughter said ‘you and mom would be better off here’ so . . . she brought us out here” (Christian, Plaza Towers).</td>
</tr>
<tr>
<td>They want to know they and/or their loved ones will be safe</td>
<td>If they [family] got busy and didn’t come see about me every day, I told them I could be dead by the time they get to me. So if it was sort of like protection to move in here (Christiana, Plaza Towers).</td>
</tr>
<tr>
<td></td>
<td>Information concerning physical security can be both verbal and visual. The Midlands has a large security desk in the main lobby flanked by a wall of security camera monitors that is staffed 24/7.</td>
</tr>
</tbody>
</table>

3.7.5 Putting a human face on the data

As remarked earlier, the strength of a qualitative study such as this one is that it can put “a human face on the data” (Wang et al., 1996, p. 1395). With that in mind, the analysis includes case studies that serve to illustrate some of the major findings of the present study, for example, the ability of a supportive environment and SOC (Selectivity-
Optimization-Compensation) to compress information illiteracy in the Fourth Age—the HIB definition of successful aging adopted for this study.

3.8 Trustworthiness of the research

The issue of trustworthiness cannot be avoided whatever the epistemological approach of the research (Gibbs, 2002, p. 13). Some qualitative researchers (Leininger, 1994, Altheide & Johnson, 1998) have argued that ‘reliability’ and ‘validity’ are quantitative terms and, as such, are not necessarily applicable to qualitative research. Others have suggested adopting new criteria for determining reliability and validity, and hence ensuring rigor (e.g., Lincoln & Guba, 1985; Leininger, 1994; Rubin & Rubin, 1995). In a series of key works in the 1980s, Guba and Lincoln (1981, 1982) suggested replacing reliability and validity with the concept of ‘trustworthiness’, placing the emphasis on the methods of inquiry as a means of confirming rigor.

While it was not a grounded theory study, the present study employed elements of the grounded theory approach, as espoused by Charmaz (2003). Along with Charmaz, I believe that it is not possible for a researcher to be fully objective; what Charmaz (2003, p. 259) termed ‘disciplinary emphases’ and ‘perceptual proclivities’ influenced my collection and analysis of the data. That said, I made a rigorous effort to present “factual accuracy of the account[s]” (Johnson, 1997, p. 282) and to triangulate the data using a variety of methods as “without rigor, research is worthless, becomes fiction, and loses its utility” (Morse, Barrett, Mayan, Olson, & Spiers, 2002, p. 1). Barbour (2001) notes that triangulation is widely accepted as a means of assuring rigor as it “addresses the issue of internal validity by using more than one method of data collection to answer a research question”. I used a number of methods for triangulating data. It should be noted that not all theorists agree about the importance of triangulation in assuring reliability in qualitative research. However, logic suggests that employing multiple triangulation strategies may help reduce the likelihood of systematic bias and distortion during data analysis (Patton, 2002, p. 563).

As discussed above, the field work continued for two years at one site and about six months at the other. The use of the second site was invaluable when it came to interpretation of the data gathered at both sites as it provided the opportunity for environmental triangulation. Environmental triangulation seeks to identify “which
environmental factors, if any, might influence the information that is received during the study” (Guion, Diehl, & McDonald, 2011, p. 1). In this case, the field study involved two physically similar sites that represented the opposite ends of the spectrum both socioeconomically and racially. As will be discussed in the next chapter, the most important HIB findings ultimately came from comparing the differences between the participants’ information literacy at the two sites. Theory triangulation was also employed. The study employed a number of theories and models drawn both from LIS and gerontology in the belief that “differing assumptions and premises affect findings and interpretations” (Patton, 2002, p. 562). Likewise, it eschewed chronological age in favor of the Fourth Age, to help ensure the ‘old’ participants were a meaningful, homogenous sample. Pattern matching was also employed with regard to investigating the supposition that ceasing to drive would coincide with entrance into the Fourth Age. The findings presented in the next chapter demonstrate a close correlation between the two in the given circumstances. Likewise, by examining the research questions through three different means of data collection (interviews, observation and the LSIA), it was possible to look for patterns of convergence that assisted in developing and corroborating the overall interpretation.

Finally, there was the matter of reflexivity (critical self-reflection). As I recounted in Chapter 1, I grew up in and around nursing homes and have spent most of my professional career exploring how best to prepare for the ‘age wave’ that is now upon us. Examining subjects in which I had 30 years of experience (i.e., retirement communities and aging) through the lens of a newly mastered discipline (i.e., LIS), enabled me to see a familiar subject in a new light.

3.9 Conclusion
The present study employed a primarily qualitative approach and the interpretivist/constructivist worldview. The study emphasizes particular parts of the framework, for example, the focus on affective characteristics from personal construct theory. Three methods of data collection were used in order to arrive at the final interpretation and a conscientious effort was made to present information and interpretations that, while not generalizable (this being a small interpretivist study), might be considered trustworthy. By employing a more precise definition of ‘old’, i.e., the Fourth Age, I have attempted to provide a more sharply focused look at the HIB of
older persons than has been offered by most LIS gerontological studies up until the present time. The study also makes use of what I would term ‘guided life histories’; encouraging the participant into a chronological retelling of his or her life story shaped around a semi-structured set of interview questions designed to bring to light critical factors in their HIB during the process.
CHAPTER 4: FINDINGS

4.1 Introduction
This study employed both semi-structured interviews and prolonged observation. Using an ethnographic approach, which includes observation, provides independent validation for participants’ responses during interviews, thus enabling a richer, deeper understanding of a culture (Adler & Adler, 1994, p. 81). Observation becomes particularly important in working with participants in the Fourth Age as the interview data are apt to be considerably ‘thinner’ than those obtained when working with individuals in the First, Second and Third Ages who have more information needs such as child-rearing, professional concerns and education, and whose independence is much less constrained. Indeed, as Williamson (1995) reported, the ‘Very Old’ (the closest category she had that was comparable to the Fourth Age) had the fewest information needs of any of the older age groups she studied—and used the fewest sources of information.

Thus, in the case of the Fourth Age, observation takes on an added importance. Its purpose is not only to validate the interview data, but also to uncover aspects of the social and built environment of the retirement community that help or hinder the threat of growing information illiteracy.

The findings begin with a review of the study’s research questions and goals. A demographic description of the study sample follows, with special attention being given to how the participants were classified according to their position in the Four Ages continuum. This is followed by findings regarding the themes that emerged from an analysis of the data. These include information needs, information sources, information-seeking processes, computer and Internet use, successful aging, and information literacy (Table 4.1). In most of the sections, the interview findings are presented separately from my observations. It bears mentioning again that the names of the retirement communities and the participants are pseudonyms.
Table 4.1 Themes and categories

<table>
<thead>
<tr>
<th>Theme</th>
<th>Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information needs</td>
<td>Choosing a retirement community, information needs of daily living, concerning the small world, regarding the outside world</td>
</tr>
<tr>
<td>Information sources</td>
<td>Intimate personal networks, wider personal networks, mass media, small world sources 1 and 2, outside sources</td>
</tr>
<tr>
<td>Information-seeking processes</td>
<td>Purposeful information seeking, incidental information seeking, proxy information seekers</td>
</tr>
<tr>
<td>Computers and the Internet</td>
<td>Purposes, selectivity, optimization, compensation (S.O.C.), support, declining abilities</td>
</tr>
<tr>
<td>Successful aging</td>
<td>Life Satisfaction Index A scores (LSIA), compression of information illiteracy</td>
</tr>
</tbody>
</table>

The findings in this chapter focus on the two key research questions. The first question was what roles do information and technology play in the daily lives of retirement community residents who are in the Fourth Age? With regard to that, the research goals were: to identify the participants’ information needs; to discover the sources they used to meet those needs; to explore the processes by which they were able to acquire information through the context of their everyday lives; and to investigate their use of computers and the Internet for meeting their information needs. The second research question related to the nature of the relationship between the participants’ HIB and whether or not they perceived themselves to be aging successfully? The goals here were to explore the extent to which they were actively seeking information and to examine what impact the physical, cognitive and social losses that accompany the Fourth Age had on all of the above.

4.2 Demographics of the sample
This section introduces the key demographics of the participants. These include site where they lived, race, gender and marital status, education and financial situation.

Ten of the participants resided at the Plaza Towers retirement community; fifteen at The Midlands. The disparity in numbers was primarily due to two factors. First, as discussed in Chapter 3, Plaza Towers had a much smaller population who matched the sample
criteria, and not all of those who were eligible were interested in participating. Second, the plan of research called for interviews to be discontinued when the sample “adequately answers the research question” (Marshall, 1996, p. 523). Data collection took place at Plaza Towers later than at The Midlands, so it was at Plaza Towers that the decision regarding terminating data collection had to be made.

As discussed in Chapter 3, Chatman’s (1991, 1992) retirement community study involved only single females. The present study made an effort to also include males. The sample consisted of eighteen females and seven males.

All of the participants, indeed, all of the residents, at The Midlands were white Protestants. All of the participants, and most of the residents, at Plaza Towers were black Protestants. Why this was so will be discussed further on. Suffice it to say here that it did not appear to be a matter of race but, rather, one of cultural conformity. Research on this complex and sensitive issue is hard to come by. US equal housing laws prohibit any form of segregation, save income, and the seniors housing and long-term care (SHLTC) industry has been largely mute on the topic. However, Low (2008) suggested the issue of cultural conformity extends far beyond the gated walls of retirement communities:

While historically secured and gated communities were built in the United States to protect estates and to contain the leisure world of retirees, these urban and suburban developments now target a much broader market, including families with children … This retreat to secured enclaves with walls, gates, and guards materially and symbolically contradicts American ethos and values, threatens public access to open space, and creates yet another barrier to social interaction, building of social networks, as well as increased tolerance of diverse cultural/ racial/social groups (p. 45).

Low (2008) attributed this growth to growing urban fear. As discussed below, security was certainly a major information need in choosing a retirement community.

Seven of the participants were married. Two married couples participated in the study, both from The Midlands. The spouses of the three remaining married participants’ declined to participate.
There were differences in levels of education between the two sites, although not vast differences, and between males and females. Plaza Tower participants reported having slightly lower overall levels of education. Although two Plaza Tower participants had to quit school after ninth grade (junior high) to go to work and help support their families, all of The Midlands participants had completed high school (12th grade). At both sites, 40 percent of the participants had bachelor degrees. One participant at Plaza Towers had a PhD and one participant at The Midlands had an MD. Some participants from The Midlands had masters degrees, and some Plaza Towers participants had associate degrees.

Overall, male participants were more likely to have college degrees than their female counterparts. Likewise, female participants at The Midlands were more likely to have a college degree than those at Plaza Towers. Six of the seven men in the sample (86 percent) had completed a college degree as opposed to only twelve of the eighteen females (67 percent). However, nine of the twelve female participants at The Midlands (75 percent) had at least a bachelor degree, as opposed to two of the seven female participants (29 percent) from Plaza Towers. If one included associate degrees, then 57 percent of the female participants from Plaza Towers had post-secondary education. Given the wide age spread among the participants, there was no way to meaningfully compare these educational percentages to those of the wider population. Indeed, the near equality in education levels at the two sites was serendipitous.

Based on where they lived, the general financial status of the participants was known before the research began. According to officials at The Midlands, an applicant needed ‘at least’ a million dollars in assets to be considered for residency. Plaza Towers, on the other hand, was a low-income retirement community, meaning a monthly income of only about twice the US poverty level. Nevertheless, the financial status of the participants was not considered especially germane for the purposes of this study. Rather, the intent was to determine the participants’ assessments of their financial situations, i.e., ‘comfortable,’ ‘getting by’ and ‘not so good’. The thinking was that any evidence of increased anxiety might suggest a greater need for information. All but one of The Midlands sample (93 percent) termed their financial situations as ‘comfortable’. Clever, a nursing home resident at The Midlands, thought of herself as only ‘getting by’. In contrast, just four of the ten participants at Plaza Towers (40 percent) saw
themselves as financially comfortable. Two others saw themselves as ‘getting by’ (20 percent) and the remaining four saw their financial situations as ‘not so good’ (40 percent). Education appeared to have little effect on the participants’ sense of financial well-being as all three participants who answered ‘not so good’ had bachelor degrees.

4.3 Locating participants on the Four Ages continuum
This section reviews the selection criteria for participation introduced in Chapter 3 and locates the 25 participants on the Four Ages continuum. It also demonstrates the fallacy of using chronological age to define ‘old’.

Health privacy laws precluded advance knowledge of physical and cognitive losses. Therefore, the decision was made to select participants based largely on whether or not they still drove a car. Chapter 2 included a definition of the characteristics of the Fourth Age (Baltes & Smith, 2003, p. 130). Several of those characteristics were impossible to ascertain without extensive testing, i.e., losses in cognitive potential and the ability to learn, and systemic breakdown in psychological adaptivity. Another characteristic, the possibility of dementia, could be easily tested for and automatically excluded individuals from participation (see Chapter 3).

What remained for the purpose of placement on the Four Ages continuum were losses in three or more of the following areas: vision, hearing, strength, functional capacity, cognition and illness. As also noted in Chapter 3, those losses closely matched those impacting the ability to operate a vehicle as identified by such driving studies as Foley et al. (2002) and Ragland et al. (2004). To test this assumption, two outliers who still drove regularly were included in the study. This was based on the supposition that, despite their chronological ages (75 and 86) they would both prove to still be in the Third Age (i.e., not manifest the losses described above). Likewise, two very frail residents of The Midlands nursing home were included as outliers to represent the far end of the Fourth Age.

As it happened, several participants whom management said no longer drove did, in fact, still drive on a limited basis. This was fortuitous as it shed further light on the progression of the Fourth Age continuum. When the 25 participants’ losses and driving habits were graphed (Appendix I), there was a clear correlation between three or more
losses and no longer driving. The 13 participants who no longer drove were clearly members of the Fourth Age as defined here. As posited, the two active drivers manifested and reported no losses and were, by definition, still in the Third Age. Ten other participants had only one or two disabilities. This group reported still driving occasionally, albeit usually only in the daytime:

I just can’t see as well at night as I used to (Jen, The Midlands).

Jen and the others in her group also reported largely limiting their driving to trips along familiar routes, such as driving to church (Henry J.), going to the doctor (Joe Snow, Jen), traveling to a family member’s home (Gibby), or driving to the public library (Sonny).

These individuals were no longer in the Third Age, but neither were they as far advanced into the Fourth Age as their 14 fellow participants. Gibby had no personal losses at all. But her husband’s Fourth Age issues had cast her temporarily in the Fourth Age. I defined her condition and that of the others as being ‘on the cusp’ or ‘early Fourth Age’ (see Table 4.2 below). It should be noted that five of the ten participants who were ‘on the cusp’ gave up driving and moved into the Fourth Age proper during the two years I observed them.

Table 4.2 also clearly demonstrates the potential for inaccuracy that comes with using any calendar age to define ‘old’; 86 year-old Christian is still hale and hardy in the Third Age whilst 70 year-old Jeannie is in the fourth Age. This supports previous studies, discussed above, such as Suzman et al. (1992), that reported finding a wide disparity in the abilities of their older participants.
Table 4.2 Four Ages spectrum of participants at time of the initial interview

TM = The Midlands, NH = The Midlands Nursing Home, PT = Plaza Towers

<table>
<thead>
<tr>
<th>Third Age</th>
<th>On the cusp (Early 4th Age)</th>
<th>Fourth Age</th>
<th>Late Fourth Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>No losses</td>
<td>1-2 losses rarely drive</td>
<td>3+ losses Cloistered; rely on others for transport</td>
<td>Almost never leave building</td>
</tr>
<tr>
<td>Still drive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active outside</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Anne (TM), 75
Christian (PT), 86
Charlie (PT), 79
Christiania (PT), 75
*Cybel (TM), 90
Gibby (PT), 81
*Henry J (TM), 88
Jen (TM), 82
*Joe Snow (TM), 87
*Nannah (TM), 80
Sonny (PT), 92
*Starr (TM), 90

Alfa (PT), 94
Buster (TM), 84‡
Cherrie (PT), 81
Gloria (TM), 84
Jeannie (PT), 70
Maria (PT), 79
Marion (TM), 85†
Mildred (TM), 84
Ruth (PT), 87
Sunflower (TM), 90
Zelda (TM), 86
Clever (NH), 83
Doc (NH), 85

* Gave up driving; became a member of the Fourth Age with three or more losses by the end of the study.
‡ Moved away to follow daughter (caregiver) who had been promoted and transferred out of state.
† Moved into the nursing home by the end of the study.

Employing this classification system reinforces the belief that the Fourth Age is best viewed as a continuum across which we may expect to see information needs and information behaviors continuing to decline in the face of individuals’ increasing morbidity. However, Williamson and Asla (2009) argued that it might be possible to delay or compress that. My two-dimensional representation of this continuum based on my findings is shown in Figure 4.1 below.
As evidenced in Table 4.2, chronological age was not a good predictor of ‘old’ or membership in the Fourth Age. This supports previous studies, discussed above, such as Suzman et al. (1992), that reported finding a wide disparity in the abilities of their older participants. While cited earlier, a quote by the late Robert Butler, first director of the US National Institute on Aging bears repeating here: “There is nothing magical or scientific about [65] . . . or any other number in defining old age” (Butler, 2008, p. 13).

4.4 Theme: Information needs

Over the course of the interview, most participants alluded to a number of information needs. After analysis of data, four categories emerged for the theme of participants’ information needs or, as Williamson (1995) perhaps more accurately termed them, ‘topics of concern.’ As shown in Table 4.3 below, the categories were: information needs related to choosing a retirement community; information needs of daily living; information needs concerning the small world; information needs regarding the larger world outside the retirement community; and affective information needs. ‘Small world’ is the term that Chatman (1999) used to describe cloistered environments like retirement communities.
Table 4.3 Theme: Information needs

<table>
<thead>
<tr>
<th>Categories</th>
<th>Sub-categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choosing a retirement community</td>
<td>Motivation, finances, security and peace of mind, familiar faces and places, proximity to caregivers</td>
</tr>
<tr>
<td>Information needs of daily living</td>
<td>Health and wellness, pharmaceuticals, income and finance, recreation in the Third Age, voluntary activities in the Third Age, mental challenges, legal, consumer, benefits and services</td>
</tr>
<tr>
<td>Concerning the small world</td>
<td>Health and wellness, management decisions, marking time, community-based transportation, recreation and voluntary activities</td>
</tr>
<tr>
<td>Concerning the outside world</td>
<td>National state and local news, fashion, sports, politics, TV guide, stock markets, educational programs</td>
</tr>
<tr>
<td>Affective information needs</td>
<td>Need for positive information, spirituality, personal affirmation, control over life</td>
</tr>
</tbody>
</table>

The first category, choosing a retirement community, addresses one of the most important information needs in later life. While the decisions and events described here took place in the past—only one of the participants had moved to the retirement community within the past year—the importance to the gerontological portion of this study warrants its inclusion here. The second category, information needs of daily living, refers to topics of concern common to all members of the Third and Fourth Ages regardless of whether or not they live in a retirement community. Category three, concerning the small world, examines information needs of daily living that were now being addressed by living in the cloistered environment of a retirement community. Concerning the outside world examines information the participants needed to help keep their knowledge of the outside world up to date. Finally, affective information needs examines findings relating to the need for positive affective information. Within each category, the participants’ interview data are followed by researcher observations, where it was considered that these observations would add value.
4.4.1 Choosing a retirement community

In every case, the declining health of the participants and/or their spouses motivated the need for information about a retirement community. Primary information needs related to locating a community that could provide a sense of security and peace of mind, financial affordability, familiar faces and places (people already known as well as race, culture and religion being among the kinds of information required) and—most importantly—a retirement community located close to their former places of abode and/or family caregivers.

Interview data. The twenty-three participants who were in, or on the cusp of, the Fourth Age cited declining health as the key factor that motivated their information seeking:

I had gotten old and I had gotten sick and I didn’t like living by myself. So I thought, well, I’ll move into Plaza North (Christiana, Plaza Towers).

Eleven participants (this included the two participants in the Third Age) whose spouses were still living at the time they moved in, reported that the poor health of their spouses also drove their need for information about retirement communities:

My husband was losing his eyesight and I’d fallen and broken my darned back, so I was in a mess and needed help (Sunflower, The Midlands).

The need to know that the retirement community could help provide for their physical security was important to all of the female participants, especially at Plaza Towers which was on the edge of a high crime district:

Where I used to live, the gangs would knock on the doors of elderly people and say “Give us money to pay us to leave you alone”. I am just an old woman, what am I going to do? So I called my case manager at the County Aging Office and she brought me straight to Plaza Towers and the first apartment I looked at is the one that I took (Jeannie, Plaza Towers).

The 23 independent living participants also expressed the need to know that they had the added peace of mind that congregate living provided:

If they [family] got busy and didn't come see about me every day, I told them I could be dead by the time they get to me. So if it was sort of like protection to move in here (Christiana, Plaza Towers).
Four widowed participants also reported that their terminally-ill husbands needed to know that their wives’ future needs would be met; this was an important information need when it came to making the decision to move in:

Well, my husband really decided, I think, that it would be a good place for me. He had terminal cancer by then and wanted to know my needs would be met when he was gone (Mildred, The Midlands).

When it came to choosing a retirement community, lack of choice was not a major factor, but location was. Within their respective price ranges, both groups of participants had at least three local retirement communities from which to choose. Locals (The Midlands = 10/15, Plaza Towers = 6/10) needed information about retirement communities that were in their part of town, and close to family, their old homes and friends:

We are east side people. We’ve lived on this side all of the time and we’re familiar with it. It’s not such a big shake-up (Gloria, The Midlands).

The information that they already knew someone at the retirement community was also important:

I have some friends here and I think the friends I have are like-minded like me (Christian, Plaza Towers).

We knew people out here. They seemed to like it, so we really didn't look at any place else (Marion, The Midlands).

At The Midlands, eleven of the fifteen (73 percent) reported already having friends there when they moved in. This was less apt to be the case at Plaza Towers where four of the ten were from out of state. There, only two of the ten participants indicated they knew someone there at the time they moved in (20 percent).

Most important of all was the need to know that family caregivers would be living close by and willing to help with future needs. Studies estimate that two-thirds of care recipients live within ten miles of their caregivers (Mendes, 2011, p. 1). Amongst the single participants in this study, the oldest daughter or a niece was most often identified as the caregiver; two of participants said their caregivers were close friends. Married
couples also reported having family caregivers in addition to the support of their spouses. All of the participants who were locals had family in the city. The eight who moved from out of town said the knowledge that their children lived nearby and were willing to help them now and in the future was their primary reason for seeking information about local retirement communities:

We were living in California when my wife got sick. Our daughter said ‘you and mom would be better off here’ so … she brought us out here and we signed up (Christian, Plaza Towers).

[My husband] had a heart attack and my kids just said ‘You know it’s just too hard to help you guys. You need to come closer.’ We liked it where we were, but we thought, well, our kids want us out there and this isn’t always true, so maybe we’d better move (Nannah, The Midlands)

**Researcher observations.** Seven out of ten adults say they are caring for an elderly parent, the majority of who are aged 75 years and older (Mendes, 2011, p. 1). By definition, an informal caregiver “is an unpaid individual (a spouse, partner, family member, friend, or neighbor) involved in assisting others with activities of daily living and/or medical tasks.” (Family Caregiver Alliance, 2012, p. 1). Caregivers play an essential role in the care recipients’ information networks. Studies report caregivers spend an estimated 13 hours per month researching care services or information on disease, coordinating physician visits or managing financial matters. (Mendes, 2011, p. 1).

As with familiar caregivers, people prefer familiar surroundings and faces. Chatman (1991, 1992) reported that the loss of familiar and known surroundings and friends was a topic of concern. Thus, both physical proximity and cultural similarity were important information needs. While participants in the Osgood (1983) study sought information about distant leisure time retirement communities in the sun belt, the majority of this study’s participants wanted information about retirement communities that were in the same neighborhood or area of the city where they already lived. This difference can be explained by the fact that Osgood’s participants were still driving and in good health when they moved (i.e., in the Third Age), whilst the participants in my study had chosen to ‘age in place’ when they were younger and now were mostly in the Fourth Age.
Gloria’s earlier remark that east siders preferred The Midlands is supported by research. The majority of The Midlands residents came from within a five-mile radius of the retirement community and many of them already had an existing social tie to other residents when they moved in:

Almost all of the residents know somebody here when they move in. They go to the same church or their kids went to school together (marketing director, The Midlands).

The participants in the Osgood (1983) and Chatman (1991, 1992) studies and this one were alike in that they wanted to know that their new neighbors shared their cultural values. In the present study, this included race and religion although this was not always overtly alluded to during the interviews. This conformed to Savolainen’s concept of mastery of life (previously discussed in Chapter Two):

The culture with its specific values not only directs habits and attitudes to working life but also to spending leisure time, for example, the role of book reading and television watching. Naturally, in addition to specific social classes those evaluations are affected also by the generation to which one belongs (Savolainen, 1995, p. 264).

Chatman (1999, p. 213) defined such a community of like-minded individuals as a ‘small world’, the term employed in this study. The features of my two small worlds included race and religion. As mentioned above, The Midlands participants (and their neighbors) were white; the participants at Plaza Towers were black (as were their neighbors). All of the participants were Protestants. The participants were likely to have been concerned to learn about these factors, either consciously or sub-consciously. Even though the participants did not articulate this information need specifically during their interviews, The Midlands marketing director did:

Racial discrimination is illegal, but in twenty years we’ve never had a black resident or any minority even though we use black models in our marketing photos. I’ve toured black couples and encouraged them to move in, but they sense they wouldn’t be comfortable here.

As discussed above, the participants also sought information assuring them that they and/or their loved ones would be physically safe. Consequently, both organizations emphasized physical security in their marketing information. This information need was
also addressed visually with fencing and signage and both sites had security staff. Another kind of security—the peace of mind that came from not being socially isolated—was also an information need as Christiana’s comment above indicated.

### 4.4.2 Information needs of daily living

This category refers to topics of concern that impact everybody in the Fourth Age, regardless of whether or not they live in a retirement community. These information needs correspond to what Savolainen (1995, p. 272) termed ‘practical information’. In earlier LIS studies, such information needs have sometimes varied widely, e.g., Warner et al. (1973), Dervin et al. (1976) and Chen and Hernon (1982).

The present study generally supports the finding of Williamson (1995, 1997, 1998) that the volume of information needs required for daily living diminish as individuals age. The present study suggests that while information needs continue to decline as participants pass through the Fourth Age, The Midlands participants as a group had more information needs of daily living than did their counterparts at Plaza Towers.

In her major study of older Australians, Williamson (1995) identified twelve information needs regularly required by her participants (see Table 2.1 in Chapter 2). She found that the following were very important information needs for her Very Old participants as well as for the other age groups: health, pharmaceuticals, income and finance, and recreation. While Williamson’s ‘Very Old’ (more often called the ‘Oldest Old’) had some need for information concerning the eight other topics identified by participants, those needs were of lesser importance. Two of those other needs—housing and crime and safety—were largely resolved in the present study by the participants’ decision to move to a retirement community. As shown in Table 4.3 above and discussed below, the present study found evidence of Williamson’s four principal information needs as well as five others: voluntary activities, mental challenges, legal, consumer, and benefits and services. Additional information needs related to daily life within the small world of the retirement communities and affective information needs will be discussed further on. As always, interview data is followed by relevant observation data.
Interview data. The four topics identified by Williamson (1995) as the principal information needs of the Very Old (i.e., health and wellness, pharmaceuticals, income and finance and recreation) are discussed first, followed by the additional needs raised by participants.

Health and wellness. The major information need for daily living was health and wellness. This came as no surprise given that all of the participants who were members of the Fourth Age had multiple health problems:

I have high blood pressure, diabetes, congestive heart failure, arthritis, sciatic nerve. The eyes are not really good, neither (Christiana, Plaza Towers).

I have hearing problems, macular degeneration and arthritis, high blood pressure. I had my left hip and my right knee replaced and it’s my left knee that is bothering me now (Mildred, The Midlands).

Married couples also reported needing information related to their spouses’ health. Twenty-three of the participants reported needing information concerning the health of their family members and friends.

Pharmaceuticals. At the time of the interviews, only Starr indicated that she took no pharmaceuticals at all, “not even an aspirin.” The rest of the participants in the Fourth Age reported taking numerous medications, both prescription and over-the-counter. For them, knowing which medication to take, when, and how much were major information needs:

I’ve taken a couple for arthritis, but they took them off the market and I had to quit. And then more recently, I took [another prescription anti-inflammatory]. But, the doctor took me off of it and put me back on ibuprofen which I used to take (Mildred, The Midlands).

Income and finance. Like health, income and finance remained a necessary information need. For most, this meant paying the monthly bills or arranging to have them paid. Information regarding Social Security was important to all ten Plaza Towers participants. Two of the participants at Plaza Towers also reported needing information about their deceased spouses’ pension plans. Four of the participants were still
financially active in their family businesses, necessitating a greater need for financial information:

I manage the farm accounts and keep them on my computer (Jen, The Midlands).

I work here in my [home] office six to eight hours a day (Starr, The Midlands).

Recreation. As part of the topic of recreation, Williamson (1995) included activities that provided mental challenge as well as other recreational activities. Recreation as it is used here refers only to pursuits engaged in for personal pleasure and satisfaction. Those in the Third Age and, to a lesser degree, those on the cusp identified recreational pursuits in the greater community such as clubs and social groups (5), bowling (1), concerts and theatre (6), sporting events (6), gambling (2), travel (1) and using the public library (1). Those in the Fourth Age, on the other hand, generally limited their recreational pursuits to those provided by the retirement community (discussed below).

In discussing recreation, it is appropriate to refer back to Osgood’s (1983, p. 33) role identities in retirement communities: Organizers, Joiners, Socializers, Humanitarians, Recreationalists and Retirees. At the time of the interviews, all of the Plaza Tower participants were Recreationalists, those who take part without personal involvement in the planning or execution, and required information about upcoming activities and events. At The Midlands, even the two nursing home participants might have been considered Recreationalists, thanks to the many programs and activities offered by The Midlands staff. Participants at The Midlands who were on the cusp or in the early-to-mid Fourth Age were also Recreationalists.

Voluntary activities. Voluntary activities are defined here as “work conducted on behalf of others without any expectation of financial reward.” The concept of voluntary activities includes both informal work individuals may perform on behalf of others, as well as ‘official’ volunteer work for not-for-profit organizations. The two Third Age outliers both reported needing information as a result of volunteer activities outside their respective retirement communities.
At Plaza Towers, only one early cusp participant, Gibby, had volunteered. She arranged travel tours for the senior center and needed information for this purpose and, applying Osgood’s (1983) definitions, might be considered an ‘official’ Organizer. The other participants did not indicate they had ever been involved in formally organizing activities at Plaza Towers. However, there were several examples of informal volunteer activities among Fourth Age participants. Alfa took it upon herself to sit by the elevator and smile and greet everyone who came by with a cheery word, thus ‘brightening their day’. Charlie Brown, having once been a chef, would occasionally prepare meals for his neighbors. These involved minimal information needs.

Ten of the fifteen Fourth Age participants at The Midlands reported still participating in volunteer activities at the Retirement Community as Joiners and requiring information for that. From their background information it was also clear that most of The Midlands participants had played much more active volunteer roles in the retirement community in years past when they were in better health. Ten reported having once been Organizers—leaders who helped initiate or grow in-house programs. Two saw themselves as Joiners (just what the name suggests). Thus, their information needs had once been greater.

Obviously, there was a significant difference in the degree of involvement (and resulting information needs) between the participants at the two retirement communities with regard to recreational and voluntary activities. A possible explanation will be discussed below.

Mental challenges. Twenty-two of the participants indicated through their activities that they needed information that challenged them mentally, albeit in a safe, non-competitive setting. Both television game shows and card games were mentioned in that context. This is significant as longitudinal studies have found that cognitive activities such as these are associated with slower cognitive decline, as well as possibly reducing the risk of dementia, e.g., Verghese et al. (2003). This will be discussed in more detail in the information sources section.

Consumer. There were some limited needs for information about consumer products. Two female participants at The Midlands reported needing information about clothing
designed for older women. All but five (20/25) needed information about adaptive or assistive devices, most especially associated with vision and hearing (20/25). Six participants (four at The Midlands, two at Plaza Towers) expressed an interest in information about new technologies, e.g., computer hardware and software, a robotic vacuum cleaner and cell phone choices.

Benefits and services. Information regarding benefits and services was needed more by Plaza Tower participants (10/10) than by participants at The Midlands (2/15). Information needs mentioned by Plaza Tower participants included menus for the daily lunch provided by the Red Cross (10), government-assistance with housekeeping services (4) home health aides (4), Medicare and Medicaid (10) and food stamps (1).

Researcher observations. Many of the participants’ information needs were embedded in the daily life of the retirement community and went without mention during the interviews. In this regard, my observations shed additional light on two of the information needs of daily living: legal issues and benefits and services.

At The Midlands, all thirteen independent living participants needed information regarding the end-of-life legal documents. These essential legal documents included a living will, durable power of attorney, durable power of attorney for health care, and possibly a ‘Do Not Resuscitate’ form. The wealthier participants at The Midlands also needed information about any changes in the tax codes that might affect their incomes, ways they could shelter their estates for their families, and if their wills needed to be revised.

With regard to benefits and services, information about government entitlements and benefits was of interest to the residents of both retirement communities, but more so to those at Plaza Towers as monies from these represented the major portion of their monthly incomes. There was also interest in information regarding the annual need to sign up with a Medicare insurance provider as well as any major changes in government programs and services.

With the exception of fear of crime, the present study found little overt evidence of the six major areas of information needs identified by Chatman (1992) in her retirement
community study. This may be explained by the fact that, unlike Williamson (1995, 1997, 1998), Chatman treated all of her older participants (aged 65 and older) as an homogenous group, rather than dividing them out by age groupings. Consequently, the much greater information needs of those in the Third Age may have been co-mingled with those in the Fourth Age, leading to muddled and sometimes conflicting results.

Referring back to Osgood’s (1983) role identities, eleven of The Midlands participants were Humanitarians, having voluntarily donated funds to programs at the not-for-profit retirement community, as well as other worthwhile outside charitable causes. These eleven sought information regarding the subjects of their charitable giving as well as information regarding any possible tax benefits that might be enjoyed.

4.4.3 Regarding the small world
As residents become more and more cloistered in the small world of the retirement community, their information needs shift inward. Health matters begin to dominate conversations. They seek information about management decisions, such as rate increases, that will impact their lives—and over which they have little or no control. Because they no longer drive, they need information about transportation services. In the Fourth Age, recreational and voluntary activities are largely limited to what management chooses to offer. Again, many of these information needs were so embedded in the fabric of daily life that they went largely unremarked in the interviews.

*Interview data.* In this section the need for information concerning health and wellness reappears; albeit from a different perspective, one shaped by life in the small world. Management decisions are also discussed. The other small world information needs (community-based transportation, recreational and voluntary activities) are detailed in researcher observations.

At The Midlands, ten of the fifteen participants in independent living indicated a need for information concerning the retirement community’s many wellness and fitness programs. Only three Plaza Towers’ participants expressed similar information needs at their facility.
There was considerable interest in information about the health and well-being of other residents—especially when other residents’ health noticeably failed. “I’m curious,” admitted Zelda, a participant at The Midlands. Physically impaired independent living residents who used wheelchairs or walkers were negative information for their healthier neighbors, who saw in them their own future. As Plaza Towers participant, Charlie Brown, angrily remarked, “There are people living here [who] should not be living here. They should be in a care home.” When residents with physical and cognitive infirmities were not asked to move out, the other residents quickly became informed as to who were the ‘poor dears,’ to employ the term used by Chatman’s (1991, 1992) participants. As Gloria at The Midlands rather sanctimoniously remarked during her interview, “We take our turn eating with those people.” That said, all of the participants were quite willing to share information regarding their own health issues. Again, this was viewed as a negative topic of concern by others:

That’s one reason why the Bridge Club broke up. They had so many health problems, and it was getting boring to have folks do nothing but talk about their health (Marion, The Midlands).

With regard to the health of others, there was a positive information need among independent living residents when it came to the status of their neighbors who had gone to the hospital or a nursing home. Unfortunately, management was not allowed to share this information due to health privacy laws, leaving participants with an unmet information need. “I realize there is a Privacy Act, but it seems to me we should be told,” Midlands participant Jen remarked.

The actions of management were a topic of concern almost daily, not just when a resident ‘disappeared’. Management’s control over the participants’ lives ultimately was reflected in the information needs regarding even the most basic levels of daily living. Two participants with major physical impairments, who were dependent on others for help with even the simplest activities, reported the greatest information frustrations:

I’d like to know when they’re going to give me my shower (Clever, The Midlands).
Tell me how I can go to morning programs. The nurse comes at ten and then the girl comes to give my bath around eleven. It will be one o’clock or so before I am dressed to go to anything (Cherrie, Plaza Towers).

**Researcher observations.** The findings for the information topics, transportation, and community-based recreational activities and voluntary activities are based largely on my observations.

*Transportation.* Cloistered members of the Fourth Age had limited reasons for going forth into the outside world. Loss of vision, hearing and growing physical frailty made them hesitant to be in crowds. When they did need to go outside, transportation became a major information need. All of the participants in the Fourth Age and half of those on the cusp needed information regarding transportation choices offered by the retirement community.

*Recreation (retirement community-based).* All of the participants who were well into the Fourth Age reported largely limiting their informational needs for recreation to programs offered by the retirement community:

> My husband and I always went to the symphony and summer theatre and I continued going to them until just last year. But then my hearing and vision got too bad . . . I still like to go to the music series here sometimes (Mildred, The Midlands).

The provision of recreational activities was constrained by staffing availability. So participants often wanted information concerning the staff members’ schedules. This was especially true with regard to weekends and holidays—the traditional times for leisure activities. When I began this study, both retirement communities ran on a five-day work week and became ghost towns on weekends and holidays. As a result of complaints from the residents and managers, The Midlands rearranged matters so that major events now took place on weekends and managers and line staff took turns being available on holidays. “We’re family, maybe the only family some of these residents have. We should celebrate as a family” (Chief executive officer (CEO), The Midlands).

Still, the employees were admonished not to carry their caring too far and ‘love the residents to death’. By doing things that the residents could do for themselves, staff
members ran the risk of fostering the kind of learned helplessness described by Savolainen (1995).

Voluntary activities (retirement community-based). Voluntary activities tended to overlap with recreational ones, especially at The Midlands. Again, all of the participants who were in the Fourth Age largely limited their information needs for voluntary activities to programs offered within the retirement community (see information sources below).

The differences between the two retirement communities were stark with regard to the generation of information needs associated with voluntary activities. As noted earlier, Fried et al. (1997, p. 216) had decried the fact that older adults “are, in the main, marginalized from productivity while having a surfeit of time”. The management at The Midlands took this challenge to heart. To employ the typology of residents introduced by Osgood (1983, p. 37), participants at The Midlands had numerous opportunities to be involved in voluntary activities either as Organizers, Joiners, or Humanitarians. The activities generated information needs. Residents were elected to chair the Resident Association and to chair the committees of staff and residents, including those that oversaw all of the major functions of the community (food, grounds, the health care center, the endowment, activities, the fitness club, housekeeping, furnishings, transportation and the library). Annually the board and management also selected a resident to serve as a voting member of the board of directors. While admirable, this is not uncommon among not-for-profit retirement communities. What was unusual—and in my opinion more important with regard to creating information needs—was management’s policy of inviting residents to identify their favorite interests/pastimes/hobbies and then helping them take active roles in developing those at with the assistance of a professional program manager/facilitator. During the two years, I observed residents seeking the information they needed to start and/or maintain a monthly music series, four ongoing film series, a computer center and the fine arts program that included an award-winning art gallery with exhibits that changed monthly, art classes for beginners, maintenance of the artworks on loan that graced the 1.75 miles of hallways, and an artists’ studio for the growing number of professional artists who moved to the retirement community as a result. Such a high level of involvement in community activities certainly helped maintain information literacy skills as well.
4.4.4 Concerning the outside world

‘Outside world’ refers to information needs concerning the world outside the walls of the two retirement communities. The present study largely confirmed earlier research conducted by others (e.g., Chatman, 1992; Williamson, 1995) with regard to information needs: national, state and local news; fashion; sports; politics; TV guide; stock markets; and educational programs.

*Interview data.* The data suggest that, even in the Fourth Age, the participants worked to keep their internal models of the external world up to date (Wilson, 1977). All of the participants reported needing information about outside friends and acquaintances who were ill or had died, information that all too often was negative:

Most of them are gone. There are a very few that I will run into every now and then (Sonny, Plaza Towers).

Participants’ other reported information needs included: world, national and local events (23/25); stock market information (7); the TV guide (5); educational programs (10); worship services (2); fashion (3); information regarding organizations to which they had once belonged (14); and sports (4).

*Researcher observations.* The need for information about the outside world continued unabated well into the Fourth Age. However, for those at the far end of the Fourth Age, the ability to continue updating these external world models became more and more difficult.

4.4.5 Affective information needs

In LIS, “considerations of ‘affect’ . . . are increasingly viewed as central to the user-centered perspective” (Julien et al., 2005, p. 454). As previously mentioned, the participants disliked negative affective information such as television programs with too much violence. This section discusses the participants’ quest for positive affective information and its role in personal affirmation, spirituality and providing a sense of control over life. As introduced in Chapter 2, there is evidence that positive emotions are long-term survival mechanisms as opposed to negative emotions that may be invaluable short-term motivators (Vaillant, 2008; Carstensen et al., 2010, p. 11).
Interview data. Given that those in the Fourth Age have often lived to a very old age, one might surmise that the search for positive affect information would be strongly embedded in their daily lives. Indeed, I found that the participants’ quest for positive affect was so strong that it corroborated Ketelaar and Tung Au’s (2003) argument for affect-as-information.

Twenty-one of the 25 participants expressed a strong need to seek positive affective information and avoid negative affective information whenever possible:

I’m not lookin’ for the sorry side of life. I’m lookin’ for the good side of life (Buster, The Midlands).

I try to give [negative people] the benefit of the doubt, you know what I am saying, because I try not to let the negative part weigh on me (Christiana, Plaza Towers).

You gotta think positive because if you think negative all the time, you will kill yourself (Jeannie, Plaza Towers).

I realize that when you get older, sometime [sic] it is not always money that really helps. It’s tender, loving care. People that sit around and listen to you, people you know are going to be there for you (Christiana, Plaza Towers).

One consequence of this was that the participants reported avoiding negative television programs and publications that were full of violence:

Every time you turn the TV on, the news on, or the newspaper; someone is getting killed or someone has gotten killed (Charlie Brown, Plaza Towers).

Likewise, gossiping was considered negative information:

I keep tape over my lips. I don't talk about them, I don't talk about their children and I don’t chase after their husbands. So I stay in good stead. I don’t do any gossip, I don’t talk about anybody, I don’t carry bad news or take bad news (Cherrie, Plaza Towers).

Staff members were also mentioned as important sources of positive affective information by eighty percent of The Midlands participants (12/15):
It isn’t as though it’s something the employees have to say or do. It’s as if they really want to be nice to you. And I think they’re that way with most people. And when I have guests come in, they feel this, too (Mildred, The Midlands).

Spirituality was closely tied to positive affect in the minds of most of the participants. All but one of the participants reported God and religion were important in their lives and made it clear in their remarks that they tried to obey the Golden Rule and treat others positively:

I tell people don’t look down, look up because Jesus is up and he will direct your path. The devil is down; people who look down tend to look down on other people (Alfa, Plaza Towers).

Personal affirmation was another important aspect of positive affective information according to at least three of the participants:

It doesn’t matter what the people say to me as much as how they say it (Starr, The Midlands).

There’s very few people who’ll just shut you out and if they do—if I say hello to them and they don’t answer back—I say, “Well, you bastard” and walk on (Buster, The Midlands).

Five participants also reported that positive affective information from others gave them a greater sense of control over life at a time of growing uncertainty:

The staff here in the nursing center is a fabulous bunch of people. Because they’re pleasant, and they’re encouraging and they’re cheerful. They're everything you need to have from a person who is trying to make you well (Marion, The Midlands).

Researcher observations. As discussed earlier, Chatman (1999) defined closed societies like retirement communities as small worlds within which “mutual opinions and concerns are reflected by its members . . . In its truest form, a small world is a community of like-minded individuals who share co-ownership of social reality” (p. 213). One instance of like-mindedness was indicated by the attempts to remain positive. I found it very interesting that a number of the residents at The Midlands were prepared to preserve their positive worldview almost to the point of belligerence. On more than
one occasion when I was walking down the hallway deep in thought, a passing resident grabbed my arm, stopped me and chastised me for failing to acknowledge his or her presence. “You didn’t say hello and you didn’t smile. That just won’t do, you know.” Indeed, one of the first thing visitors commented on was the fact that all of the staff were always smiling and seemed happy to see them. I asked The Midlands CEO about this and she agreed: “It’s true. Employees who aren’t positive don’t stay. The system weeds them out.”

4.5 Theme: Information sources
This section presents and discusses the sources participants used to meet their information needs; the next section second addresses information seeking processes. However, at times they must necessarily overlap somewhat. As always, interview data are followed by researcher observations, if applicable.

The present study’s findings generally supported the sources identified in Williamson’s (1998) ecological model of human information use (Figure 2.1 above). It expanded upon her work in two ways: (1) by studying institutionalized participants rather than persons still living in the outside world, and (2) by including the Internet (not widely-known at the time of her study). Given their growing importance, computers and the Internet are given a section of their own further on. Consequently, this section deals with the following categories of information sources: intimate personal networks, wider personal networks, mass media, small world sources (divided according to retirement community), as well as outside professional and institutional information sources. Table 4.4 summarizes these sources. Some of the processes involved in the use of these sources also begin to emerge in this section.
Table 4.4 Theme: Information sources

<table>
<thead>
<tr>
<th>Categories</th>
<th>Sub-categories</th>
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<tbody>
<tr>
<td>Caregivers</td>
<td>Primary proxy information seeker</td>
</tr>
<tr>
<td>Intimate personal networks</td>
<td>Family, friends, some staff members</td>
</tr>
<tr>
<td>Wider personal networks</td>
<td>Old and new acquaintances, some staff members</td>
</tr>
<tr>
<td>Mass media</td>
<td>Television, radio, printed works, including <em>The Bible</em></td>
</tr>
<tr>
<td>Small world sources 1: The Midlands</td>
<td>Retirement community staff, gatherings, publications, information grounds, professionals (visiting and internal)</td>
</tr>
<tr>
<td>Small world sources 2: Plaza Towers</td>
<td>Gatherings, publications, information grounds, retirement community staff</td>
</tr>
<tr>
<td>Outside professional and institutional sources</td>
<td>Lawyers, physicians, bank officers, accountants, social and professional organizations, government agencies, churches</td>
</tr>
</tbody>
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4.5.1 Interview data

As the table suggests, the discussion of institutional information sources here is more complex than in Williamson’s study, given that these participants were themselves institutionalized. Since professionals, such as nurses, were provided by the retirement communities—more so with The Midlands than Plaza Towers—it was decided to include professionals along with other retirement community sources within those small worlds. Outside professionals and institutional sources are also discussed together. The interview data, focused on each of the categories in the table, precedes the researcher observations.

*Caregivers.* As discussed in the previous section, proximity to the caregiver was the primary consideration in choosing a nursing home. An estimated 43.5 million US adults informally care for someone aged 50 years and older (Family Caregiver Alliance, 2012, p. 1). As noted above, the Family Caregiver Alliance has defined an informal caregiver as: “an unpaid individual (a spouse, partner, family member, friend, or neighbor) involved in assisting others with activities of daily living and/or medical tasks.” (p. 1). Nationwide, informal caregivers “spend an estimated 13 hours per month researching
care services or information on disease, coordinating physician visits or managing financial matters” (Mendes, 2011, p. 1). As they often relied on their caregivers to serve as proxy information seekers, a number of participants reported sharing with them what Chatman (1992, pp. 125-126) called ‘third-level information’ or ‘secret information’, such as health or financial concerns. This differed from Chatman’s finding that her participants often preferred to hide such information from family members and only shared it with professionals, such as physicians, lawyers and clergy, who then had to treat it as confidential. Again, this may be explained by the fact that Chatman’s sample included members of both the Third and Fourth Ages. One can speculate that her participants in the Third Age might well have concealed such information from their families in an effort to maintain their independence.

**Intimate personal networks.** While the current research did not provide many explicit examples of information obtained from intimate personal networks, the literature (e.g., Chatman, 1992, Williamson, 1995) indicates that the extent of people’s social networks has an impact on the degree to which their information needs will be met. The assumption here is that intimate—and wider—personal networks were important to helping participants meet their information needs.

The sizes of participants’ intimate social networks, i.e., close family members and friends, varied widely. Twenty of the participants reported they still had close family members with whom they were in regular contact, usually by telephone. Adult children, cousins, nieces and nephews, grandchildren and, in some cases, great-grandchildren reportedly visited. Physical visits with siblings were fairly rare due to declining health and the fact few of them drove any longer.

For all but three of the cloistered participants, family members were seen as important sources of information, particularly when it came to discussions of health- and finance-related information needs:

> When I want to talk about more important things, I have my kids come over. We have something to talk about besides what’s happening here at The Midlands (Starr, The Midlands).
This would appear to challenge Chatman’s (1996) conclusion that her participants did not “share critical information with family, caregivers, and friends” (p. 199). However, it should be noted that Chatman’s retirement community site did not have an attached nursing home. Therefore, it is possible that the majority of her retirement community participants could have been in the Third Age (most of those in the Fourth Age having been forced to move away). Therefore, this Third Age group might have exhibited such behavior.

When it came to close friends, the numbers varied widely. As previously mentioned, one participant who had moved here from another part of the country reported he had no close friends left:

All of my friends are a thousand miles away and six feet under (Buster, The Midlands).

The two nursing home participants had also outlived their close friends or were no longer in contact. Two others participants each reported having only one ‘good’ friend. At the other end of the spectrum, two participants reported still having many, many close friends:

I’ve lived here [in the city] so long now that I do have friends, many friends, and some people you see once in a while that are acquaintances … I’m very fortunate (Mildred, The Midlands).

From their interviews, it became clear that the latter two participants had always worked—and continued to work—very diligently at developing and maintaining their extensive social networks, just as the two with only one friend had never, at any stage of their lives, felt compelled to develop broad social networks of close friends.

Several definitions of what constitutes a friend were provided, all having to do with trust and being there for one another:

A friend to me is a person that you are constantly communicating with all the time, a person that you can call on for a need if you need it. Somebody you can talk to and not feel like you’re imposing on them (Gibby, Plaza Towers).
When you get older sometime [sic] it is not always money that really helps. It is people that sit around and listen to you, that are going to be there for you (Christiana, Plaza Towers).

Examples of how a friend was used for mutual checks on each other’s health and well-being came from both sites:

We may not have anything to say, but we call each other every morning, “Hey, how are you doing?” “How’s the weather?” “What you doing today?” Maybe five to ten minutes conversation (Gibby, Plaza Towers).

We do worry about each other. We do not discuss this as a group, but after dinner Connie and I talk in the hall on the way back to our apartments about what might be going wrong with our friends, who is in the hospital, et cetera (Jen, The Midlands).

At The Midlands, five of the participants also included employees—line staff and middle managers—among their list of close friends:

Some of them are better friends than some of the residents (Sunflower, The Midlands).

None of the participants in The Midlands nursing home and none of the Plaza Towers residents listed staff members among their close friends.

**Wider personal networks.** Twenty-two of the 25 participants reported that, while they made new acquaintances from among the residents whom they did not know when they moved in, they made few, if any, of what they would term “close friends”. Wider personal networks, acquaintances if you will, generally encompassed most of the other residents and, at The Midlands, some of the staff members up to the level of middle management. At Plaza Towers, two of the more disabled participants who used the services of part-time housekeepers and home health aides considered them good acquaintances.

All thirteen of The Midlands independent living participants reported eating congregate meals in the dining room every day; many reported sitting with the same group of friends every day, year after year. Making new acquaintances at mealtimes was one means of acquiring new information sources. For some this became unsatisfying from
an informational perspective. Four participants made it a point not to sit with the same
group all of the time:

I think it is better to move around. If you are with the same people all the
time, you hear the same stories repeatedly and since everyone has an
interesting story of his own, it is more interesting to hear theirs than be
bored with the same old tales (Henry J., The Midlands).

**Mass media.** All but three of the independent living participants indicated television
was their major news source as well as a source of useful information:

When I get up I watch the farm news at 4:30 every morning. I get a lot of
information on that and how to buy groceries and everything (Jeannie,
Plaza Towers).

Television also played a significant role with regard to meeting the information need
for mental challenges that was discussed earlier. Twenty-one participants (21/25)
reported regularly watching quiz shows like *Jeopardy* and *Wheel of Fortune* on
television for the mental stimulation and challenge they provided. Buster at The
Midlands enjoyed *Wheel of Fortune* because “it tickles my mind a little bit. I guess I
know about half the answers when he asks it”. Charlie Brown at Plaza Towers echoed
this remark: “It is very important because you got a brain and if you do not use it, then it
is going to get dormant and you are going to get dormant with it”. In the most striking
case, a participant whose wife had had a series of strokes, reported they watched game
shows together to help her update her internal world model:

This gives her some kind of touch with the world; because she sees things
and she cannot figure too much, but she understands them and [so] we
look at those every day (Christian, Plaza Towers).

Eight of the participants also reported regularly playing mentally challenging card
games (primarily Bridge at The Midlands and Spades at Plaza Towers) with other
residents and friends. The card games that involved players from outside the retirement
community also provided sources for information concerning the outside world:

Playing bridge, that's my main source of outside information, I think
(Marion, The Midlands).
The local newspaper was a major source of national and local news for all but one of the independent living participants at The Midlands:

I read the daily paper every morning and once a week, I read the Business Journal. ...I pass the Business Journal along to others and they, in turn, pass it along (Jen, The Midlands).

I read it from front to back, especially the obituaries to see if I’m still here (Zelda, The Midlands).

Three of these Midlands participants had severe vision problems and used the ‘talking newspaper’ service provided by the university.

The local paper was not a major information source at Plaza Towers where only four of the participants reported reading the paper regularly. One participant blamed this small number on the lack of availability:

I get the newspaper some times. They do not have a [vending] machine here, so I do not always get it unless somebody will go out and get it for me (Maria, Plaza Towers).

Both sites had libraries and these were the major sources of books, magazines, and videos. Only one participant, Sonny at Plaza Towers, reported using an outside public library. Twenty of the independent living participants preferred large print books if they were available. Three others with severe vision problems reported using government-sponsored talking books and audio books as information sources. Fifteen preferred non-fiction—‘educational books’— to fiction. The most important media information source for positive emotional affect was The Bible. Ten participants (10/25) reported they faithfully read from it daily as a means of helping meet their spiritual information needs. Two others said they listened to it on CDs.

Small world sources 1: The Midlands. Residents who were cloistered at The Midlands enjoyed a cornucopia of information sources. There were also a number of information grounds. As outlined in Chapter 2, ‘information grounds’ are physical environments created by “the behavior of people who have come together to perform a given task, but from which emerges a social atmosphere that fosters the spontaneous and serendipitous sharing of information” (Pettigrew, 1999, p. 811).
Quarterly floor meetings with the CEO and monthly Resident Association meetings were important sources of information about management plans and upcoming events and activities. All of The Midlands participants reported attending those fairly regularly (the nursing home had its own monthly meeting). Every resident received at least three print announcements before each and every major event: first, in a monthly activities calendar; second in a weekly activities report; and finally in a flyer or invitation that went out several days before the event.

We probably would forget things if the information wasn’t there. So, it’s helpful (Starr, The Midlands).

Participants identified a number of information grounds. In the independent living area these included a fitness club, computer center, movie theatre, post office, coffee bar, dining room, card rooms, conversation areas, art gallery, the main lobby where residents gathered before meals, and the beauty salon. The last was seen as the most important in terms of acquiring information:

My husband calls it the communications center. It isn’t the front desk that is the communications center; it’s the beauty salon (Mary, The Midlands).

The beauty salon is the soul of the community because people visit and talk. It’s life; it’s about who’s sick and what you can do for them and who’s getting married—it’s normal, neighborhood talk (Starr, The Midlands).

This popularity was partly due to health privacy laws:

The only way we can find out who is in the hospital is if we ask [the Beauty Salon Manager] and she is usually very accurate as she goes to see all of them (Jen, The Midlands).

Nursing home residents had their own facility attached, but separate from, the independent living apartment complex. In the nursing home itself, the information grounds included their dining room, the beauty salon, and the communal living room.

In addition to the normal informal exchange of information, management used the beauty salon and other places for the formal distribution of information.
All of the independent living participants at The Midlands made reference to one or more professional staff member or consultant as an information source. Professional employees included personal fitness trainers, the activity director, the computer center employees and home health clinic nurses. Outside professionals who spent part of their time in residence included a branch bank teller, the medical director and an estate planning consultant. The independent living participants all preferred to get their information from these professionals, especially when it came to health:

I ask the nurse, I don’t ask the janitor. I ask somebody that I think is smart and intelligent (Buster, The Midlands).

**Small world sources 2: Plaza Towers.** There were considerably fewer information sources available to the participants at Plaza Towers. The monthly apartment manager’s meeting was cited by all as a source of information about upcoming events and changes in management policies. The two monthly publications were generally looked down upon as information sources, when they were mentioned at all (4/10):

We don’t really know what is going on at the apartments except for the newsletter that we get every month. The newsletter from the senior center is always late. You do not get it until the middle of the month and half the stuff has already transpired (Jeannie, Plaza Towers).

The managers of the apartment complex and the senior center were mentioned as information sources by four participants.

Information grounds in the Plaza Towers apartment complex mentioned by the participants included the TV room and the front porch. On the senior center side, reference was made to the multi-purpose room at lunch time and the card room. Other information grounds will be discussed under researcher observations.

**Outside professional and institutional information sources.** Despite the availability of professionals within The Midlands, participants still needed information from outside professionals. These included physician specialists (13), accountants (10) and financial advisors (5). Participants also reported needing information from officials at the U.S. Veterans’ Administration, Social Security and Medicare and Medicaid. Medicare is a
federal insurance program primarily serving people aged 65 and older (National Bipartisan Commission on the Future of Medicare, 1998). Medicaid is a federal-state assistance program that serves low-income families and individuals of all ages (US Department of Health and Human Services, 2012, p. 1).

Given the paucity of internal professionals at Plaza Towers, participants had a greater need for information from outside. The ten Plaza Towers participants made mention of the need for information assistance from physicians and nurses (8), pharmacies (10), travel agencies (3), social and professional organizations (1) and various government agencies, i.e., the US Veterans’ Administration (3), Social Security and Medicare/Medicaid (10), food stamps (1), the County Department on Aging (5). The County Department on Aging is responsible for providing home and community-based services, including transportation, information and assistance and advocacy support.

Both groups of participants (19/25) cited pastors and members of their church congregations as information sources, particularly when it came to transportation to worship services and church activities.

4.5.2 Researcher observations
In the Fourth Age, individuals become increasingly cloistered. When it comes to information sources, it stands to reason that those who move to a nearby retirement community like The Midlands, where they already have intimate personal friends, have an opportunity to be less socially isolated than those who remain physically isolated in their own homes. Furthermore, it was clear that participants at The Midlands enjoyed wider social networks of acquaintances (including staff members) than did participants at Plaza Towers. It was readily apparent that there were far more information sources at The Midlands and that these information sources were deliberately tailored to support information needs arising from participants’ personal interests. As discussed above, the computer center also went to great lengths to help residents stay in touch with their social networks through state-of-the-art Internet programs.

Still, intimate personal networks shrank as people moved through the Fourth Age. Close friends and family members died or had to move to nursing homes, diminishing the number of intimate information sources. At The Midlands, not a month went by that I
did not attend at least one memorial service or funeral for a resident. Not only did this diminish remaining residents’ wider social networks, it also made residents wary of developing stronger relationships that might have led to the sharing of more personal information. “These are old people, you don’t want to get too close ‘cuz one day soon they’ll be gone,” said Zelda.

4.6 Theme: Information-seeking processes
The findings in the present study supported the categories of purposeful information seeking and incidental information acquisition (IIA), as defined by Williamson (1995, 1997, 1998). It was also necessary to introduce a third category, proxy information seeking, a term employed by McKenzie (2003). Along with discussing the three information-seeking processes, this section begins interweaving the threads of information needs and information sources discussed earlier. Once again, interview data are followed by researcher observations.

4.6.1 Interview data
Williamson (1995, 1997, 1998) found that purposeful information seeking declined with advancing age while incidental information acquisition gained in importance as a means by which older people were able to continue monitoring and updating their internal worlds as the result of a “set of habits or routines” (Asla et al., 2006, p. 55). In some respects IIA resembles the concept of information grounds as Williamson linked incidental information acquisition to Wilson’s (1977) theory that people find information unexpectedly as they engage in other activities, with information acquisition becoming an ‘incidental concomitant’. McKenzie (2003) proposed a similar process of non-directed monitoring that involves “monitoring information with no intent other than to become generally informed” (pp. 26-27). The limitation of McKenzie’s definition is that it still implies purposeful monitoring. In fact, research suggests people may ‘encounter’ information (Erdelez, 2005) or acquire information (Williamson, 1995) without any process of purposeful monitoring. For example, someone might serendipitously acquire information through a casual conversation with a friend or while watching a television program for entertainment.

Purposeful information seeking. As discussed in Chapter 2, purposeful information seeking refers to deliberate information seeking, although the purposeful aspect is often
implied than delineated in the terms used to describe this information seeking process, e.g., ‘information seeking’ (Erdelez, 2005), ‘active search’ (Wilson, 1997), and ‘active seeking’ (McKenzie, 2003). Among people in the Fourth Age, purposeful information seeking declines due to physical and cognitive losses that impede information seeking, shrinking information sources, and, most important, reduced information needs.

In discussing their backgrounds, all of the participants gave evidence that their activities, interests and professional information needs had declined when compared to when they were in the Second or Third Ages. This leads one to conclude that the need to purposefully seek information had diminished as well. For example, Henry J., a retired physician living at The Midlands reported he had once belonged to the American Medical Association, American Neurological Society, the Country Club, and various church groups. At the time of the interview he only belonged to the church groups.

However, by living at The Midlands he had developed new needs for purposeful information seeking as he now belonged to the Friday Night Discussion Group, was doing online research for a family history he was writing with the support and encouragement of the computer center staff and served on the Resident Council, where he was chair of the Nursing Home Committee. To a greater or lesser degree, every one of the participants living at The Midlands reported engaging in purposeful information seeking related to living in that community. The same was not true at Plaza Towers. As discussed in the information needs section above, activities necessitating purposeful information seeking were limited in scope.

**Incidental information acquisition.** Williamson’s (1995, 1997, 1998) study confirmed that older people monitor their world for relevant information. As a consequence, some ‘unconscious’ needs are incidentally acquired when relevant information is ‘discovered’. Twenty-three of the participants indicated they had incidentally acquired information. These invariably involved a number of information sources including the media, information grounds, and personal networks:

> Information is knowledge. My daily ritual is to read the local paper, Watch CNN, and the local news. When I go to the Fitness Center, I can catch up on what is going on here [at The Midlands]. After exercise class, I get a morning report from two good friends at coffee (Henry J., The Midlands).
Some had less elaborate routines—“My television and my window is all I need” (Alfa, Plaza Towers)—but all of them had habitual rituals for keeping up-to-date with what was going on in the world around them. This held true for those in the nursing home as well, even though their worlds had shrunk down until they were very, very small.

Half of the participants were aware that they had acquired information incidentally from time to time, whether through their ritual monitoring or simply serendipitous encounter, but only three could provide concrete examples, all of which related to major health crises involving themselves or a family member:

I had a heart attack. I’d been watching the Discovery Channel the day before and they were talking about some medicine that did a tremendous lot of good for heart patients. So I was layin’ there in the hospital and I looked up at the surgeon—I knew him—and I asked him, “You got any of that expensive stuff what was on the Discovery Channel last night?” He points to the IV and says, “That’s it.” And it was $3,000 for that little pouch of stuff he was puttin’ into me (Buster, The Midlands).

Two examples of incidental information acquisition came from television programs while a third came from a lecture. In other examples, participants incidentally acquired information which they realized would be useful to others:

I heard something on the television and I thought that would be something the manager might want to know and my friend might want to know too, so I went down to tell them (Jeannie, Plaza Towers).

Proxy information seeking. As outlined in Chapter 2, ‘proxy information seeking’ refers to an individual either seeking information for another person at the request of the latter or passing on information to another person who is perceived to need that information (without specific request) (McKenzie, 2003). Only five participants recalled serving as proxy information seekers for others. All participants reported actions in which they employed proxy information seekers to one degree or another. Proxy information seekers were usually members of their intimate or wider social networks:

When it comes to finances, my daughter takes care of some things, my son takes care of others and another daughter also is involved. I have plenty of good help (Henry J., The Midlands).
My sons, they’ll look something up and tell me about it . . . Something like evaluating medications or communicating with some of the relatives with e-mail (Cybel, The Midlands).

My aide will do anything. She will look up stuff for me. She does a whole lot for me (Christian, Plaza Towers).

The most cited use of proxy information seekers was helping with finances (18/25) followed by seeking health information (10/25), seeking information about retirement communities (8/25) and seeking information from government agencies (3/25).

4.6.2 Researcher observations
Observations over the two-year period support the view that individuals in the Fourth Age often become increasingly reliant on proxy information seekers in their daily lives. At The Midlands, participants’ proxy information seeking was most evident in their use of the computer center. Gloria and Henry J. began having the staff members research and recommend new software. Starr asked the staff members for help publishing the books she had written. Mildred, who was blind, stayed in constant touch with her daughter, who lived in another country, by having a computer center employee check her e-mails daily. This proxy information seeker ran the e-mails off in large print, then typed and e-mailed back Mildred's replies. Mildred was just one of 31 residents who took advantage of this so-called ‘e-mail-gram’ service. While none of the participants mentioned using other residents as proxy information seekers, or vice-versa, I did observe this behavior. These instances generally related to small everyday information needs, such as “Can you check to see if the mail is in?” or “See what the lunch special is, will you?”

How comfortable participants were with turning control of their information seeking over to others had a significant impact on their sense of aging successfully. This will be examined in the next chapter in a case study comparing Mildred’s HIB to that of Starr, another participant who also lost her sight.

4.7 Computers and the Internet
This section deals with computers and the Internet (Table 4.5). It is being discussed separately because, while it involves information sources and processes, the findings
also shed light on the effect of time on participants as well as issues of access to hardware and support.

The study took place before the popularity of tablet computers and social media like Facebook and Twitter, so they are not included in this discussion. Findings regarding ten of the participants’ computer/Internet usages collected during the interviews and their usages two years later are discussed under researcher observations.

As noted in Chapter 3, one of the sample criteria was that at least 50 percent of the participants be computer/Internet users. Therefore, no effort was made to match the percentage of participant computer users to any national percentages.

Table 4.5 Theme: Computers and the Internet

<table>
<thead>
<tr>
<th>Categories</th>
<th>Sub-categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers</td>
<td>Games, writing letters, books and life stories (mental stimulation)</td>
</tr>
<tr>
<td>Internet</td>
<td>E-mails, searching, shopping</td>
</tr>
</tbody>
</table>

4.7.1 Interview data

At the time of the initial interview, all of the participants knew about the computer center/room in their respective retirement communities. Thirteen participants used computers and the Internet as information sources. Eleven lived at The Midlands, two were at Plaza Towers. These disproportionate numbers were due to the difficulty of finding participants at the second site, Plaza Towers, who were both in the Fourth Age and computer/Internet users. Lenhart (2003) reported that individuals aged 55 and older with lower incomes, less education, and who were ethnic minorities, lagged behind in Internet usage. However, as noted in Chapter 2, a more recent study by Zickuhr and Smith (2012) reported that ethnicity, and education, had become much less important factors and were approaching parity. As also mentioned in Chapter 2, Wicks (2003) called into question “how much variables such as age or education tend to influence the digital divide.” (p. 195).

Given that the education levels were similar at the two field sites (see above), education would not seem to explain the disparity in the number of computer users in the Fourth Age at the two sites. Ethnicity is a possible explanation but the work of Zickuhr and
Smith (2012) would appear to challenge that conclusion. Lower income would appear to prove at least a partial explanation. Supporting this finding, two of the Plaza Towers participants reported money was their reason for not having a computer:

I never did use a computer. I didn't even know how. I think it's because I just figured I could never afford to buy one (Gibby, Plaza Towers).

Still, Gibby and the other Plaza Towers participants did not have to buy their own computers and Internet service. The attached senior center had a well-equipped computer room with four stations.

Lack of a supportive learning environment is a better explanation. Three of the participants at Plaza Towers identified a lack of support as the primary cause for not learning to use a computer:

I did not find [a smile and offer of help] when I came here and that did not set very well with me. And they did not offer me information. You know that makes all the difference (Ruth, Plaza Towers).

Another factor was a perceived lack of need, a common attitude at both facilities—and among the older population in general as noted by Zickuhr (2010). Sonny, a Plaza Towers participant, summed that position up rather well when he asked: “If I went so many, many years without one, why do you think I need one now?” Or to rephrase his remark: “If I can meet my information needs using technologies and schemas with which I am already familiar, why should I bother?” One reason for bothering was pressure from family members. Three participants who had adopted the new technologies within the past two years, reporting that they did so largely due to family pressure:

[My sister] got a computer and on the Internet and she thought I was living in the dark ages (Anne, The Midlands).

At the time of the interviews, ten of the thirteen (77 percent) used computers/the Internet as information sources on a daily basis. Uses included playing computer games (8), e-mailing (8), searching for information (6), writing letters, books and life stories (6), doing financials (6), shopping online (3) and composing music (1). As discussed
earlier, playing games and writing both help address the need for mental challenge and so are included here. At that time, two of the most active users were Gloria and her husband, Henry J., who had matching his and hers computers and used them every day:

I’ve shopped on the Internet and I’m going to do more on it because I can’t go very far nowadays (Gloria, The Midlands).

I’ll be reading something and it's easier to go and find it on the Internet, than it is to look in a book . . . I just find it’s remarkably handy and I use it a lot with my writing (Henry J., The Midlands).

At the other extreme were Charlie Brown and Joe Snow whose computer/Internet usage had been reduced to occasionally playing computer card games like Solitaire and Free Cell.

4.7.2 Researcher observations

What was interesting about the three new users, who had adopted computers and the Internet due to family pressure, is that they were motivated to find a way to learn to use the computer and the Internet when there was a pressing personal interest to do so. I considered, and finally discarded, the possibility that the difference in the quality and quantity of the computer equipment at the two sites were a significant factor (see Appendix H). When it came to the essentials, both sites offered modern computer stations hooked to the Internet and a color printer. So, for example, the lack of an additional commercial quality color printer at Plaza Towers made no significant difference—as there was no one there to help people learn to use it. Indeed, much of the credit for that success must go to the three staff members at The Midlands computer center who provided free training and technical support in the Center and in the residents’ apartments during business hours. This observation supports the earlier remarks by participants at The Midlands with regard to the strong supportive environment.

The computer center staff also worked hard to help residents maintain their intimate social networks. One resident came to the computer center every Tuesday at 9:30 a.m. to have coffee and visit with her son in Seattle, WA via Skype. During the two-year observation period, the computer center arranged for no fewer than five Internet weddings. When residents were physically unable to attend grandchildren’s weddings,
the computer center was converted to a chapel (complete with a small wedding cake and champagne) and proud grandparents took part in the live proceedings, again via Skype. One proud grandchild took his Wi-Fi equipped laptop to the wedding reception afterwards and proudly took it around the room introducing his friends to his tech-savvy grandparents. In a program reminiscent of telegrams (something with which the residents were very familiar), the computer center staff also managed an ‘e-mail-gram’ program for residents with visual impairments (including Mildred, one of the participants). Staff members monitored these residents e-mail accounts, printed out any e-mails in large print type, and then typed and sent the replies that the residents either dictated or wrote out long hand.

This kind of support was not available at Plaza Towers. Staffing (or rather the lack of it) may have helped contribute to the lack of users at Plaza Towers. The computer center at The Midlands had one full-time and two half-time employees. At Plaza Towers, exactly the same number of employees was expected to run the entire senior center program, including their computer room. These three hard-working, overworked individuals were responsible for almost all of the planning, scheduling and carrying out of programs, as well as helping provide a daily noon meal in cooperation with the Red Cross. So it should come as no great surprise that the computer room generally remained locked unless someone from the outside had volunteered to teach a class. However, even the most dedicated group of employees could only slow—not halt—the decline of information skills in the Fourth Age. Therefore, it is probably more accurate to conclude that it was more often the combination of losses in the Fourth Age—physical, cognitive and social—that made it difficult for the participants to even maintain the computer/Internet skills, let alone master new ones, without significant outside support.

4.8 Theme: Successful aging

The structure of interview data/researcher observations is not appropriate for this section as there was no qualitative interview data. As discussed in Chapter 3, I was interested in the participants’ subjective views as to whether or not they were aging successfully, that is to say, satisfied with their lives. As individuals’ views of life can change quickly—even daily—depending on their health that day and any number of other affective factors, it did not seem likely that any trustworthy qualitative answer to that question could be gathered in a one-hour interview.
Therefore, the Life Satisfaction Index A (LSIA), a well-validated quantitative instrument, was substituted as part of the interview process (see Chapter 3 and Appendix B). The LSIA measured the participants’ sense of aging well from a number of perspectives: zest for life, resolution and fortitude, achievement of life goals, and self-concept. The participants’ responses to the zest for life question—as to whether or not they had made plans for the future—were of particular interest. Research suggests a positive perception of the future is usually expressed through activities (e.g., Bryant et al., 2003; Faircloth et al., 2004). From an HIB perspective, it seemed logical to speculate that residents who participated in planned activities were more likely to have information needs and exhibit information seeking behaviors than those who did not. This coincided with the HIB definition of successful aging in the Fourth Age that I first proposed in Williamson and Asla (2009, p. 81) and subsequently adopted for this study: “the compression of information illiteracy”. Assuming some of the participants in the Fourth Age expressed a continuing interest in future activities, resolving in information needs, it was possible to observe these participants over the course of the study to determine if they were able to maintain or increase their information literacy as they passed through the Fourth Age.

4.8.1 The LSIA data
Eighteen points were possible with the LSIA. Instrument validity studies supported the contention that the higher the score, the greater the participant’s sense of life satisfaction. The mean score of all 25 participants was 12.6 out of 18. When the outliers—the two participants in the Third Age—were removed, the mean score adjusted only slightly to 12.5.

The LSIA scores showed the sense of aging successfully declined as participants moved through the Fourth Age. The two members of the Third Age were among the highest scorers, 16 and 18—the latter being the only ‘perfect’ score. Overall, the ten participants ‘on the cusp’ scored slightly higher than those in the Fourth Age, accounting for four of the six participants with scores 16 and higher, although their scores ran as low as nine. The mean score for those in the Fourth Age was 12; the mean score for those on the cusp was 13.2. The two nursing home participants (very late Fourth Age) were in the
bottom half, with scores of 12 and five, with five being the lowest score of all the participants.

The overall scores for the two sites were very similar. Four of the fifteen participants from The Midlands scored 11 points or fewer (27 percent) while eleven scored 12 points or more (73 percent). Three Plaza Towers participants scored 11 points or fewer (30 percent) while seven scored 12 points or more (70 percent).

There was one very dramatic difference: 79 percent of The Midlands participants in the Fourth Age or on the cusp anticipated having information needs arising from recreational activities and voluntary activities that The Midlands had planned for the next month and year—but only two of the ten Plaza Towers participants in the Fourth Age or on the cusp anticipated similar information needs arising from activities within their small world.

4.8.2 Compression of information illiteracy

Increasing information illiteracy in the Fourth age, like age-related macular degeneration (AMD), is not reversible at the present time. However, the findings suggest its progress can be slowed so that the period of information illiteracy is compressed, even when dealing with Alzheimer’s disease.

Most of the residents at The Midlands Nursing Home suffered from some form of dementia as well as physical losses and were rarely permitted to set foot outside its walls. To help them maintain their internal models of reality, management created what might best be described as ‘reality reinforcement’. Throughout the building, flat screen monitors and bulletin boards provided basic information such as the date, day of the week, time and weather. These were located wherever residents might gather or pass by. To help dementia residents locate their rooms, small display cases by the doorways were filled with personal items the occupant would recognize. Staff members also used the items in the display case as conversation starters to help a resident remember the past. When residents gathered for morning coffee in the comfortable, family-style dining room in the Alzheimer’s unit, staff and residents took turns reading aloud stories from the local newspaper and discussing them, again as an effort to help them remain rooted in reality and maintain their reading and language skills.
Another example of compressing information illiteracy was in reference to computer/Internet skills. Over the two-year course of this study, it was possible to track the computer/Internet usage of ten participants (see Appendix J). Of the ten, one was in the Third Age, one was on the cusp and eight were in the Fourth Age. Neither the participant in the Third Age, nor the one on the cusp, demonstrated any significant decline. Of the eight who were in the Fourth Age, seven showed a decline in the frequency of use and/or the number of uses. However, their declines appeared to have been slowed largely due to the efforts of the computer center staff and family members.

“I still can get on the Internet, but it’s getting a little bit on the far side of me” remarked Marion, a participant at The Midlands who was in the nursing home by the end of the study due to chronic illnesses. Still, she and her husband were able to participate in the Skype wedding of their grandson (discussed above). Gloria and Henry J., the two heavy users with matching computers mentioned earlier, both showed significant decline by the end of the study. Like Marion, Gloria’s problems were due largely to chronic illness. In Henry J.’s case, the cause was largely cognitive. A retired physician, he reported that his short term memory was “shot to Hell.” Despite his cognitive losses, over the two-year observation period he was able to write and publish two more books, thanks again to the support of the computer center staff. Likewise, Starr, the most proficient computer/Internet user, eventually lost her eyesight due to AMD. Yet she was able to prolong her computer usage and manage her business for almost two more years by employing Selectivity-Optimization-Compensation (SOC) and by using enhanced technologies and proxy information seekers. Starr’s case history, along with other case histories that help put a human face on the above findings will be presented in the next chapter.

4.9 Conclusion

As shown in Table 4.2, there is no support for a calendar definition of ‘old’. The idea that the Fourth Age may be identified by observable losses is born out here. There is support for the argument that driving cessation is an indication of membership in the Fourth Age, given a community where the ability to drive a personal vehicle is an essential part of daily life.
There is no observable evidence of a loss of information literacy among the two participants in the Third Age (which included Christian, age 86). After observing the participants at The Midlands over the two-year observation period, it is clear that individuals in the Fourth Age were impacted by their declining physical and cognitive abilities and, most especially, sensory losses that left them isolated within their own bodies. While none of the participants in the Fourth Age demonstrated the ability to independently master a new information skill, they were able to prolong existing skills with the support of retirement community staff members, through the use of proxy information seekers, and by employing SOC in their information behaviors.

Consequently, it can be argued that the number and nature of the recreational and volunteer opportunities, and the support services available at The Midlands had a direct impact on the number and quality of information needs. The Midlands’ information-rich environment, including artificial information grounds, also appears to have played a role in keeping the participants aware of what was taking place in their small world. This kind of support and services was not available at Plaza Towers and the results of the LSIA suggest the majority of those participants ceased planning for the future. Their information needs and skills decreased accordingly, as evidenced above in the discussions of information needs and sources. The case histories in the next chapter show how these and other factors played out in the lives of two of the participants, Starr and Cherrie.
CHAPTER 5: TWO CASE HISTORIES

5.1 Introduction
This chapter attempts to flesh out Chapter 4’s findings by sharing two case studies, Starr’s from The Midlands, an information-rich environment, and Cherrie’s from Plaza Towers, a less information-rich environment. A brief conclusion follows the case histories, tying together the major themes.

All of the participants had stories worth telling. In selecting only two to present here, I applied four criteria. First, I wanted case histories that illustrated as many of the key findings as possible. Second, based on the Life Satisfaction Index A (LSIA) scores (see Chapter 4), one participant should still have been making plans for the future (i.e. had information needs) at the time of the interview, while the other was not. Finally, the demographics of the two participants should be as much alike as possible so that there would be a minimum number of alternative explanations when it came to considering the differences in their compression of information illiteracy (i.e., successful aging).

Cherrie and Starr had much in common. Both women were in the Fourth Age. Starr was on the cusp at the beginning of the observation period but rapidly moved into the Fourth Age; Cherrie was already in the Fourth Age when I interviewed her. Both women had been strong information users, were very information literate and had been early adopters of computers and the Internet. Both had been married and were now alone. Both had strong social networks, had family caregivers living close by, were strongly religious and were creative. They liked to write their life stories, played piano and organ, and painted. Both women considered themselves financially “comfortable” (even though there was a considerable difference in their incomes). Starr scored 16 on LSIA; Cherrie scored 15.

There were differences. Most significant, Starr indicated on the LSIA that she was making plans for the future as did almost 80 percent of the participants in the Fourth Age at The Midlands. At Plaza Towers, the numbers were reversed; like eighty percent of the participants there, Cherrie indicated she did not plan for the future. Beyond that,
Starr was white while Cherrie was black. Cherrie had a doctorate; Starr had a bachelor degree.

Each case history is divided into two columns. The right-hand column provides comments drawn from the initial interview and subsequent observations and visits. The left-hand column contains observer’s remarks that tie the case study back to the themes, ideas, and studies introduced earlier. A conclusion follows the two case histories.

5.2 Case history 1: Starr

At the time the story opens, Starr at age 90 could be the poster child for our society’s often overly-rosy view of successful aging, calling to mind Scannell’s (2006, p. 1416) remark that “many of us approach the prospect of becoming old as though it were an option”.

<table>
<thead>
<tr>
<th>Observer’s remarks</th>
<th>Observations</th>
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| The fact she still drives occasionally places Starr on the cusp of the Fourth Age at the beginning of her story. | **The initial interview**  
Starr is a tall, lanky white woman with a thin face dominated by an ever-present smile shining amidst a landscape of wrinkles. Always energetic and positive, at age 90 she is the model of a successful, no-nonsense business woman. She is on the go from dawn to dusk, is always impeccably dressed when out in public and has her hair done in the beauty salon every week. She has a brother who is 100 years-old. She feels she is in good health and still drives occasionally. The Midlands has asked her to serve on its Board of Directors and encourages her to utilize her skills in start-up projects that appeal to her interests: a writer’s group, the computer center, and playing the piano for the residents in the nursing home. |
| The Midlands helps her maintain her information literacy by involving her in programs that are continuations of her life-long interests. |  |
| Avoidance was an attitude reflected by most of the | In terms of health, Starr admits she is experiencing some vision loss due to age-related macular degeneration |
participants when it came to major health issues over which they had no control. Starr needed information about nearby retirement communities due to her spouse’s failing health. She chose a retirement community that fit her cultural model—wealthy, Protestant professionals—and was close to a family caregiver.

Gitlin et al. (2006) found primary control striving predicted improved survival, everyday functioning and quality of life for persons age 70 and older. Primary control requires personally engaging in purposeful information seeking (PIS), unlike secondary control that relies heavily on proxy information seekers.

(AMD). She has also been diagnosed with bone cancer, but it appears to be in remission. At the time, she receives no treatment for the condition beyond regular check-ups. She is philosophical about the issue. As it is beyond her control, she chooses “just not to worry about it”. Overall, she considers herself fortunate “for someone my age” and is perhaps a little too proud of the fact that, unlike her friends, she takes no medications “except for an occasional aspirin.”

Starr has lived at The Midlands for 14 years. She and her late husband had moved to the retirement community from “a lovely house” they had just built because her husband had been seriously ill several times and “we didn’t want to be a burden to the children.” The retirement community is close to their old home; they already have friends there, and it is closer to her son’s home.

Now a widow, she describes her financial condition as ‘comfortable’ and lives in a large, tastefully-decorated, two-bedroom apartment. The second bedroom is a business office where she spends three to four hours every day working on the company started by her, her husband, and their son. While she no longer takes part in the day-to-day activities of the business, she continues to manage her interests in the company and her late husband’s trusts, an intensive effort, very much information-based, that provides her with a sense of purpose. “I haven’t [retired] and my husband didn’t either, up until death took him”.

As part of the business, Starr learned to use a computer in
At tempting to learn to touch type may be seen as an example of compensation. Starr cultivates a large social network and employs a number of communication tools, depending on the recipient and the purpose and importance of the communication. Reducing the number of organizations she participates in is an example of ‘optimization’.

1989 and presently uses Microsoft Word, Excel and Quicken to handle her business affairs. In 1998, Starr learned to use the Internet, primarily to communicate with her daughter who, at that time, lived on the Eastern Seaboard. Several years ago, they even composed music together online, with Starr composing the music using a synthesizer connected to her computer and her daughter writing the lyrics. She is concerned her AMD may get worse and she makes a resolution to teach herself to touch type on her computer by her 91st birthday.

Starr has a large social network and works hard at maintaining it. “I have friends of many, many years who are still left. At Christmas, I have probably 85 people with whom I correspond.” In terms friends at The Midlands, she says, “There isn’t a person that I dislike. I’m very happy here.” When it comes to staying in touch with her contacts outside of The Midlands, she employs a variety of communication methods:

- I talk to them on the telephone; I correspond with them [by mail]; I have e-mail with some. But, because of my poor vision, e-mail bothers me. I’m in church groups and university groups, and civic groups. I have a vast circle of friends.

She was active in a number of outside organizations until she stopped participating in a number of them when she moved to The Midlands in order to care for her husband:

- I have somewhat eliminated the social groups. Sometimes when you reach my age and have many family ties and many personal hobbies and pursuits, it’s more logical to drop some memberships and some responsibilities.
Starr has a daily routine for gathering information she uses to update her model of the greater world outside the retirement community as suggested by Wilson (1977).

Duff and Hong (1995) reported that church attendance was associated with low death anxiety (p. 19). Almost all of my participants reported God was important in their lives.

Starr is a purposeful seeker of information. On occasion, she employs her daughter as a proxy information seeker.

When asked about her criteria for dropping participation, Starr replies, “I think family comes first, The Midlands comes next and church, church pursuits”.

In addition to reading business prospectuses and reports, Starr reads “at least six novels during the year. I take US News and World Report. I read my newspaper thoroughly every day”. She watches little television.

I’m not an avid television person. I’m interested in news and historical shows. I look at the paper each morning and if there’s something on television that catches my eye, I’ll try and watch it. I like the local and the national news. I read the obituaries because I know many, many people.

Spirituality is the “most important thing” in Starr’s life. She attends the weekly Bible Study group at The Midlands and she recently purchased editions of The Bible that “are in big enough print that I can read them easily.” She is presently reading all the way through The Bible as part of a one-year Sunday School course. Her daughter and her husband are also taking part in the course and they often discuss it together.

Starr has made it a point to become informed about her health problems when they first appear and has engaged her family in her search:

Not just the physical aspect, but the daily part of living with an illness … I went to the Internet and my daughter went to the Internet when I first learned about [my cancer and AMD]. I have quite a little library on my cancer and eye problems.

Besides her library, she gets a great deal of information
Starr’s strategy for maintaining a positive attitude includes employing information avoidance with regard to negative matters over which she has little or no control. “This ‘adaptive self-plasticity’ has an effect on everyday life and corresponds to the theory of selective optimization with compensation” (Baltes, 2003, p. 18).

Within the cloistered world of the retirement community, ‘fresh’ information is difficult to acquire. Starr is one of several residents who employed mealtime strategies to meet new information sources. From specialists. She has three eye specialists, a cancer doctor, and a board certified geriatrician as her primary physician. “I have good doctors and they agree that there isn’t anything I really need …” She discusses her ailments openly and candidly:

But, I don’t worry about it anymore; I’m not a good worrier. I’m concerned about things, but I don’t borrow trouble … I’ve known people … who were so concerned about their health that they just made themselves miserable … I’m kind of ‘so what?’ If it happens it happens … Personally, I think attitude has about everything to do with it; that and the ability to cope.

Starr has a desire for new information sources, understanding how information is often acquired serendipitously. She has had an established group of friends at The Midlands.

That has almost become a burden to me because I want to eat with new people. But, the members of my old group don’t like it. We’ve all known each other for 14 years, for Pete’s sake. We know more about each other than we want to know … It’s kind of dull. We’re just there because we’re supposed to be. One member is depressed; another is growing confused. She just sits there like a clam. And another is a controller; nobody new joins the group without her blessing. And besides we can’t hear each other.

Consequently, she has changed when she eats her daily meal in the restaurant. “I used to eat lunch. I’m trying to break away because I want to eat with different people, so I have started eating the evening meal.”

Starr also likes talking with the staff members; although she is sometimes more interested in the emotional content
| Positive affective information is linked to both longevity and quality of life as noted by Vaillant (2008) and Carstensen et al. (2010). | of the conversations than she is in what has been said. “The staff is wonderful. Their love for people makes them so interesting to talk to . . . They don’t divulge anything about health or anything, but they are just so pleasant.” As far as information about The Midlands and upcoming activities, Starr considers herself well informed. I’ve been here for so long. And I’m not bashful. If I want to know something, I look to the resident services director, or to the staff person at the front desk, or to the hair stylist in the beauty shop . . . The beauty salon is the soul of the community because people visit it and most of [what’s said] is good. The Midlands is an information-rich environment. Information sources include employees, information grounds like the beauty salon, corporate publications, and regular meetings. The printed weekly activities calendar and similar flyers are less important to her than the monthly resident association meeting which she attends faithfully. “I don’t take part in some things because of my [physical] limitations and my busy schedule.” As the calendar of daily activities changes little from month-to-month, she only checks special dates when she receives printed notices in her resident box. Although some of the residents complain about all of the paper that is used to print the flyers and calendars they receive, She believes “We probably would forget things if the information wasn’t there. So, it’s helpful.” Like most participants, Starr sees gossip as negative information. The activities Starr favors are those which contain ‘information,’ which she is careful to distinguish from ‘gossip’ or ‘scuttlebutt.’ | Year two

Starr is in the Fourth Age. Over the past year, her AMD has become much worse. She has lost all of the vision in one eye and much of the vision in the other. She no
| Such multimorbidity supports the argument that giving up the car keys predicts the Fourth Age. | longer drives. She has failed to teach herself to touch type. Her cancer is no longer in remission. Due to vision loss, her home office is now dominated by a brand-new, 37 inch flat-screen computer monitor, which is also connected to her new tele-reader. The camera in the tele-reader magnifies her printed correspondence and newspapers. The enlarged image is then displayed on her large monitor. |
| --- | I can’t read anything without magnification anymore so it takes time and effort and it’s very upsetting—because I forget that I’m blind. I did take both *Time* and *US News and World Report* and another magazine called *World*. |
| Her illnesses now make it harder for her embodied mind to stay in touch with the world outside. | Due to her vision, she has to be more selective about the information sources she accesses to maintain her world model: |
| Starr uses “selectivity” to minimize her information source losses. | I’m interested in what’s going on in the world, but, I’ve had to become more selective. I read all of the daily paper. I read the headlines and decide what to read that way. I try to be a well-informed person. I have a little religious magazine and I can just about read the large print *Readers Digest*. And I read the magazines in the beauty shop when I’m having my hair done. |
| She also employs “selectivity” when it comes to her social networks. | When a distant relative recently tried to strike up an acquaintance by e-mail, Starr had to tell her she just couldn’t do it. She felt obligated to respond, but it was “just too much work to type and all, for someone I don’t know that well.” She no longer drives, so most of her face-to-face conversations are with friends and family members who come to visit and take her places, and with the residents and staff members at The Midlands. |
Another example of adaptive self-plasticity. A recent study found that hearing loss has a major impact on cognitive ability.

More examples of selectivity, optimization and compensation along with community support.

Starr has surrendered primary control and now engages in compensatory primary control. (See Menec et al., 1999.) She is employing a proxy information seeker.

Starr is no longer the idealized image of

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<th>While frustrated by her growing blindness, Starr rationalizes that things could be worse; she could be losing her hearing. (Her late husband was profoundly deaf in his last years.) “Losing your hearing cuts you off from everybody around you. You can get by without your sight.” However, she is going deaf, despite her denials. “I had loved music theatre but I gave up going this year because I don’t hear it well—it gets distorted—and I can’t see the stage.”</th>
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<td>Before her eyes failed her, Starr’s creative interests included music, writing, and painting. Due to her blindness, she has given up painting and writing. She still plays the piano at special events, church services, and provides the accompaniment for the weekly sing-a-long at The Midlands nursing home. To compensate for her vision and hearing problems, the computer center has helped her prepare 12 sets of large print song books (a different songbook for every month) made up of pieces she can play from memory. She practices the pieces regularly.</td>
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<td>Starr has also had to hire her daughter (who moved back from the East Coast to be near her mother) to help read her business correspondence. But she refuses to give up primary control. “I can’t do everything I would like to do. I spend a great deal of time on my business. Mostly, it’s stubbornness, because I could have it [the business work] done. But that’s no fun.”</td>
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<td>While her cancer is no longer in remission, she receives no treatment for the condition beyond regular check-ups. She is philosophical about the issue. As it is beyond her</td>
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successful aging in the U.S. Instead, she “clearly contradicts the belief that people who live long are spared the negative experiences of aging” (Baltes, 2003, p. 17). Still, she continues to maximize her information literacy through the use of SOC. Starr has told me that she views dependency as “degrading”. Moody (2005, p. 59) noted, “Whether dependency entails loss of dignity will be heavily influenced by . . . cultural differences, not by physical traits alone”. It is clear that this loss of control depresses her. Even so, she rationalizes her decision by employing what Menec et al. (1999) would term compensatory secondary control. The good news is that Starr was able to use SOC, community support, and proxy information seekers to compress her information illiteracy by two years.

control, she chooses “just not to worry about it.” However, the cancer has impacts on her socialization. She no longer takes part in the exercise classes in The Midlands Fitness Center—a major social activity in years past. “These bones are too fragile,” she explains. However, she has discussed the matter with her physician and the Fitness Center staff and she now walks three miles a week, usually alone.

**Year three**

Starr is 92 years-old. Her older brother has died at age 102. She is blind, going deaf and undergoing chemotherapy for her cancer. She has given up working on her business and has turned it over to her children.

My daughter balances my check book. *Not because I can’t, but because it seems logical to have her aware of my finances.* Both my son and daughter are very good in helping me with my decisions and I want them to feel comfortable in what I’m doing. So, I ask their blessing.

Despite her earlier computer literacy, her cognitive skills have diminished to the point that even the most basic technology is beyond her abilities. Stymied by a simple three-button CD player, she is almost in tears during one of our visits. “If you can’t see, you can’t think!” she complains to me one day. Eventually, she resigns herself to the inevitable—and masters the CD player. Not wanting to become one of the “poor dears” pitied by other residents, she retreats to her apartment where she spends her time listening to *The Bible* on CDs and visiting with her children who come to visit almost daily.
5.3 Case history 2: Cherrie

At the time of the interview, Cherrie is 81. When I knock on the door of her apartment at Plaza Towers, her voice inside tells me to “come in, the door’s unlocked”. I find her propped up in bed with her laptop. She apologizes for still being in bed at ten o’clock in the morning.

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<th>Remarks</th>
<th>Observations</th>
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| Cherrie was most definitely in the Fourth Age. Primary lateral sclerosis is a rare, incurable neuromuscular disease that usually occurs in older adults and causes progressive muscular weakness in the voluntary muscles. | The initial interview
She’s still in bed because her aide doesn’t come in until about 11:00 a.m. or so to help her bathe and get dressed. Cherrie has primary lateral sclerosis (PLS), a nerve condition that has left her paralyzed on her right side. By the time she is up and has lunch, it is frequently 1:00 p.m. and she has to go back to bed at 4:00 p.m. because her aide leaves then. “That is the reason I don’t go out as much because I don’t have anyone to get me ready”. |
| Cherrie is physically limited, but her mind is not entombed within her body like Starr who lost her eyesight and hearing. | Cherrie is a short, dumpling of a woman, a retired teacher with a warm personality and a burning curiosity about almost everything. Employing Osgood’s (1983) typology of roles, Cherrie could be an Organizer and is at least a Recreationalist, which is defined here as “one who attends programs and events but does not take part in their management or organization”. With proper assistance, there is no reason Cherrie’s PLS should preclude her from being a Recreationalist. Her vision and hearing are good and there is no evidence of cognitive decline. |
| Cherrie practices avoidance when it comes to seeking information about new health problems. | Cherrie has no other major health problems beyond the PLS that she knows of, “But I haven’t asked my doctor”. For her, to go to see the doctor is a waste of time. “If I stay home, I can say, ‘Well, I am doing pretty good’”.


Cherrie’s primary information need regarding a retirement community was the knowledge that she had a family caregiver nearby. She was comfortable employing secondary control and using her niece as a proxy information seeker. As noted above, Gitlin et al. (2006) suggested this might lead to a lower quality of life.

Another role identity. In Cherrie’s culture, elders are respected. Like Starr, she has a strong social network which she maintains assiduously.

| Cherrie’s primary information need regarding a retirement community was the knowledge that she had a family caregiver nearby. She was comfortable employing secondary control and using her niece as a proxy information seeker. As noted above, Gitlin et al. (2006) suggested this might lead to a lower quality of life. | A Head Start Administrator in California at the time, Cherrie moved back here and into Plaza Towers 15 years ago:

> I was sick and I needed surgery. I talked to my niece who is a nurse coordinator [at one of the hospital here] and she told me if I came here “I can get you into rehab”. So I moved out here … and I have been here ever since. She got me the apartment here [at Plaza Towers], she opened up my bank account, she did everything for me.

For her domestic needs, Cherrie also has her oldest son who also has an apartment at Plaza Towers. “I have to have someone help me with everything. He cooks my meals and does my cleaning and washing and does everything”. Cherrie has strong ties to this city, where her late brother was a major figure in the local civil rights movement during the 1960s. Besides her niece, she still has “10 or 12” friends from when she lived here then.

Like Starr, one of Cherrie’s roles is family matriarch:

> I am Aunt Cherrie, I am the oldest one left in the family, so you know I get special treatment. I had a birthday and my niece gave me a birthday party over here and invited about 60 people and had it over next door, when I was 80.

As the number of party attendees suggests, Cherrie has many close friends from her earlier days here who come by to see her and visit on the telephone. She talks to her daughters in Atlanta and Cincinnati “all the time” and they come to visit. She also has friends from her work with the Assistance League. “I keep in touch with all of them back there and we have good relationships. The girl
Cherrie is much more comfortable using compensatory primary control and proxy information seekers than was Starr. The need to personally control one’s information seeking varies from person to person and impacts their HIB and sense of successful aging in the Fourth Age.

Cherrie is a heavy information user. She continues to have information needs related to her career, even though she retired 15 years ago. Among the 25 participants, I encountered this kind of strong residual interest in only one other participant, Buster.

that took my place she is a friend of mine. I talk to them every week or two”. Still, their numbers are shrinking despite her best efforts. “Yeah, It has been so long and I am out here . . . You know, they are all dead. That is just this stage in life”.

Due to her PLS, Cherrie must largely limit her modes of communication to telephone visits and face-to-face conversations. Because of the difficulty of typing one handed, she has an e-mail account, but doesn’t use it. She does use the Internet to search for information. As noted earlier, she also uses her niece who is a nurse as a proxy information seeker when it comes to health and financial issues. “I have her look up things for me. Because she is that kind of that person. She likes to look up things, you know.”

Divorced for many years, Cherrie describes her financial condition as ‘comfortable’ and lives in a one-bedroom apartment whose walls are decorated with colorful paintings (many done by her). The shelves are casually cluttered with mementos of her career in early childhood education and lots of books and magazines, many of them related to education:

I get five or six magazines every day. I have got to figure who to give them to or get rid of them. I don't give them to seniors [here] because half of them have trouble with their sight and their reading and you don’t want to embarrass people.

Besides her magazines, she has a regular routine for keep herself up to date on what is happening in the wider world:
| Cherrie’s efforts to monitor the greater world outside the retirement community are similar to Starr’s. | I’m interested in what is happening in the world … I watch the news: CNN, Fox News, I watch 26, 27. I keep up with all the news. [The] only one I don’t look at too much is 26 when they talk about people’s divorces and who got money from divorces. I also like to watch food programs and the channel about people’s homes because I just like to see what people live and how they decorate and what they think about. It is just interesting to me.

When she was working, Cherrie was active in at least three professional organizations and traveled the world attending conferences, evaluating educational programs and doing training. She speaks longingly and in great detail about her earlier committee responsibilities for about five minutes. That ended when she fell ill and moved to Plaza Towers. She is no longer able to be active on any outside committees and has not been asked to serve on any internal committees at Plaza Towers. She rationalizes this away:

No, I am not on any committee or anything. This is the first time in my life that I have been able to get up when I get ready, go when I get ready, to make friends with who I want to, you know do whatever. The first time I have ever been able to just be, do what I want to do.

This bravado rings hollow. The reality is that she no longer can get up when she wants to because she has no aide; she can no longer go where and when she wants to because she cannot drive; and there apparently is little opportunity for her to maintain her information literacy because there is little to do here for which she needs information. I recall a remark she made to me earlier and that I have cited elsewhere: “It is kind of like you’re just on the last days of going and they kind of put you on a |

| Again, individuals rationalize negative information in an effort to see the positive. |  |
Life story programs that create information needs for the writer like the one at The Midlands require the continuity of a facilitator. As happened here, volunteer programs wither when the founders move on.

Again, Cherrie is becoming increasingly socially isolated and cut off from new information and new information sources.

I ask Cherrie about committees she could serve on. She is not aware of any. I mention the possibility of having an exhibit of her paintings at Plaza Towers. The idea had never been discussed. The topic turns to writing life stories. Before the interview began, she had spoken longingly and at length about writing and publishing an autobiography about her life and her family’s role in the civil rights movement.

You take a lot of people that are up in age, 80 and 90 years old. They have done some interesting things in their life and people like to hear about how they got started and how it went along.

She knew a lady who had written her own story and said she would help her but,

I called her house and I couldn’t get an answer, so I had to ask the landlady if she had heard from her and she said, “Oh, she passed a month and a half ago”. I said, “She did?” I didn’t even know it.

Now there is no one with experience to help her. Two years prior to this, The Midlands computer center had trained two volunteers from Plaza Towers to act as editors and had offered to design and proof the manuscripts for free and then publish the books at cost. However, after three books, the volunteers moved on.

Like Starr, she is religious but she cannot attend the Bible Service because it is in the evening when she is in bed.

I would go to church. But she would have to come clear across town to come over to
Hiding negative health information supports Chatman’s (1991, 1992) findings.

If Cherrie has an information need regarding the apartments, she prefers to ask the person in charge. The formal means by which management routinely communicates, i.e., the monthly meeting and newsletter, are not timely enough.

The regular members of the senior center are mostly in the Third Age and from the local neighborhood. Their culture is not her culture.

With only three staff members, a great deal of their time is taken up with office business.

dress me to go to church. That seems like an imposition.

Fear of being too much of an imposition, a “poor dear”, seems to color many of Cherrie’s decisions. It seems less a fear of losing primary control (as in Starr’s case) and more a matter of not wanting to be seen as a ‘poor dear’.

When it comes to seeking information about what’s going on in the apartment side of Plaza Towers, Cherrie asks the manager, rather than waste time waiting for the monthly meeting and newsletter. “That is how I find anything that happens here, I don’t read the newsletter”. When it comes to activities offered by the attached Senior Center she learns about them by reading its monthly newsletter, but the calendar of events is sometimes out dated by the time it is published. “They have several programs. They have people come in and talk to you about Hospice. I have been to that one.”

Cherrie only started going to the senior center several years ago when her PLS got so bad she couldn’t go out anymore. But, she doesn’t feel comfortable there. “It is a funny thing, [the regulars] they just know everybody . . . It is a very close-knit community and so you don't talk about anybody [because they will side with the other person and tell them what you said]”. Additionally, the major recreational pursuits are playing dominoes and Spades, a card game similar to Hearts.

But I am not interested in watching people playing cards [and] dominoes and it is not interesting. The [staff] are busy working. Sometimes they have magazines on the table that I read.
Like Starr, Cherrie was frustrated by the lack of new information in her cloistered environment. As with most of the participants, Cherrie sees gossip as negative information to be avoided. She prefers to seek out positive affective information from her informants. The topic touched her interests and generated an information need.

She also finds the conversations around the card tables are frequently boring:

I don’t talk to a lot of people because most of the time, there is only two or three things they talk about. Their surgeries or their grandchildren or their aches or pains . . . It is only thing they have to talk about.

Cherrie also avoids negative information, particularly what she sees as gossip. Consequently, although she has made many friends at Plaza Towers, they are mostly not what she would call “good friends”.

I make a lot of friends, but I don’t associate with them too much, because they gossip too much . . . I don’t do any gossip, I don’t talk about anybody; I don’t carry bad news or take bad news. I don't want to hear it . . . My favorite friend . . . fell and broke her wrist twice and she has been in the hospital for over a month and I have not told any my friends because I don’t think she wants them to hear about it. If they want to know they can call her and ask her, call her house and talk to her and see what she tells them.

Rather, she likes to be around positive people. “If they're negative, I stay away from them. This one lady [is] pretty negative and I dodge her”.

**One month later**

During the interview, I told Cherrie about the digital photography class I was teaching over in the senior center. She had a digital camera and, being an artist, was excited about attending. The class was at 1:30 in the afternoon two days a week and on several occasions she failed to attend because her aide had been late dressing her. When she was there, she displayed a lively interest and some
Upper management failed to do a good job of providing program support. The lack of planning for any continuation of the program after I left meant there was no continuity. Creating interest in programs that interest residents and then dropping them contributes to information illiteracy and may be worse than no program at all.

The class was less than perfect. We went without ink for the new printer for two weeks because the senior center staff had to get approval from their corporate headquarters that managed all of the senior centers in the city. Likewise, it took another two weeks to get a technician there to get the computers to talk to the new printer. I found these delays frustrating; sadly the students seemed to accept such delays as the norm. Students who wanted to print their pictures outside of class had to have one of the busy staff persons unlock the computer room and then stay and watch while the students printed their pictures (lest they waste ink). When my class ended, the program ended; no plans had been made for any kind of follow-on program using another volunteer.

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<th>5.4 Conclusion</th>
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<td>As noted at the beginning of this chapter, Cherrie and Starr were very similar in their interests, skills and personalities. The most significant difference in their two stories was their environments.</td>
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While other participants’ information behavior and health declined slowly over the two-year observation period, Starr’s declined dramatically, as she went from the end of the Third Age to nearly the end of the Fourth Age. Her story clearly demonstrates the importance of environment and the Selectivity-Optimization-Compensation (SOC) model with regard to the compression of information illiteracy, the LIS definition of successful aging used in this research. We see Starr fighting to maintain her information literacy by becoming more selective in her activities and social networks, by optimizing her remaining skills, and compensating by taking advantage of available support services and utilizing information technologies and proxy information seekers in order to prolong her information literacy. Her story also supports the argument for more qualitative, longitudinal studies related to everyday life information seeking (Vakkari,
1996). Had this case study been based solely on her health and information literacy at the time of the original interview when Starr was just leaving the Third Age, she would have been the poster child for that overly-optimistic picture of successful aging that is all too often presented by so-called “happy gerontologists” (Bobbio, 1996, cited in Baltes & Smith, 2003, p. 127). Unfortunately, that overly optimistic view is a chimera, a marketing huckster’s ploy to sell more anti-aging creams. Anyone who spends any significant amount of time in the Fourth Age faces growing information illiteracy; at the time this is written, given the physiological and cognitive losses, information illiteracy is just as irreversible as Alzheimer’s disease. That having been said, there is positive news: Information illiteracy can be compressed. A supportive environment helped Starr prolong her information literacy for two more precious years.

In Cherrie’s case, the environment was not strongly supportive of her information literacy. There were few programs tailored to her interests and abilities. If the digital photography class was any indication, the absence of program continuity may have been more demoralizing than no class at all. The same held true of the volunteer-led life story program. On the positive side, Cherrie’s story demonstrates that, for some personalities, secondary control and proxy information seekers may be a good way to compensate for the losses that accompany the Fourth Age. But that does not excuse the fact that the environment had left Cherrie sitting in ‘God’s Little Waiting Room’.

The ultimate lesson to be learned from Starr’s and Cherrie’s stories is that people are not easily changed—but the HIB environments can be. As will be discussed in the next chapter, there are concrete actions that can we in LIS can take to help members of the Fourth Age prolong their information literacy and sense of successful aging.
CHAPTER 6: SUMMARY, DISCUSSION AND RECOMMENDATIONS

6.1 Introduction
This chapter opens with a discussion of several features in the design of the study reported in this thesis – components that added to the library and information studies (LIS) knowledge base with regard to human information behavior (HIB) aging research. This is followed by a summation of conclusions and insights focused on the two research questions and their related goals. The final two sections in the chapter discuss the study’s limitations and offer recommendations for further research.

6.2 Study design
The present study introduced and discussed a number of LIS and gerontological theories, particularly in Chapter 2. In order to employ this multi-theoretical approach, it was necessary to first develop a ‘road map’ of the landscape of gerontological theory. As presented in Chapter 2, this ‘map’ shows how the apparently disparate LIS works of Chatman, Williamson and Wicks are theoretically linked to one another under the metatheoretical umbrella of lifespan development theory (LSDT) in gerontology. This informational map, crude and incomplete though it may be, marks an important first step towards potentially developing a classification system for organizing past and future LIS aging studies and theories. This map, along with employing the Four Ages classification system, will hopefully provide a starting point for future LIS.

The most distinguishing feature of this study’s design was that it employed Four Ages theory rather than chronological age to identify its ‘old’ participants. No one would seriously suggest information needs and processes remain unchanged across the first 30 years of life. Yet, despite growing evidence to the contrary, grant-making agencies and researchers continue to assume HIB remains static during the last 30 years of life. Consequently, previous LIS aging studies often co-mingled the data from high-functioning older adults with data from individuals who had entered senescence. The comparison of ‘apples and oranges’ in this respect casts serious doubt on the widely held belief that information and technology can successfully assist older adults to live
healthy, happy, independent lives up to and including the time they are in the Fourth Age. The findings presented in Chapter 4 clearly support critics such as Turock (1982), Friedrich (2001), Butler (2008), and Williamson and Asla (2009) who argued that chronological age was a very poor indicator when it came to identifying a **homogeneous** group of senescent individuals. This is clearly shown in Chapter 4, Table 4.1; one 86-year-old participant was still in the Third Age and three individuals in their 90s were only on the cusp of the Fourth Age, whilst two participants who were ‘just’ in their 70s were already well into the disability zone of old age. This finding has special significance for LIS researchers wishing to design aging studies in the future. By using the Fourth Age rather than chronological age to select participants, they can help our discipline begin to develop a more nuanced body of aging research based on the study of a homogeneous ‘old’ population.

Membership in the Fourth Age continuum is based on a number of observable, measurable physical characteristics. Identifying prospective participants in this manner can present something of a challenge as access to individuals’ private health information is severely restricted under the Healthcare Information Portability and Accountability Act of 1996 (HIPAA). As discussed in Chapter 2, the solution to this problem was found in the driving research literature; physical losses that define membership in the Fourth Age closely resemble the losses associated with ‘giving up the car keys’.

This information led to a foundational sociological question: “How valid is the assumption that ‘giving up the car keys’ is an indication that an individual has entered the Fourth Age?” As shown in Chapter 4, driving habits proved to be a remarkably sensitive means of identifying members of the Fourth Age in the Midwestern US where personal vehicles were required for even the most basic activities of daily life. Should future studies support this finding, this could prove to be a simple way for future researchers to identify prospective participants who are members of the Fourth Age.

It must be stressed that this so-called ‘driving test’ would only be applicable in the settings like the sprawling, suburban-style, shopping mall-centered, Midwestern US city where this study took place; a location where even the most basic tasks, such as going to the grocery store, typically involved distances far too great to walk, and there was no mass transit worthy of mention. In cities with good mass transit and neighborhoods with
grocery stores, restaurants, and entertainment within easy walking distance, or cultures in which not driving is the norm due to class or cost, this driving test would be invalid.

As already mentioned, I did fifteen interviews at The Midlands and only ten at Plaza Towers, due to redundancy. This redundancy surprised me at the time. I went into the interview stage at Plaza Towers fully expecting to do fifteen interviews because of the obvious differences in socio-economic class, and because the individuals I would be interviewing had grown up when segregation and racism were still the social norm. To my pleasant surprise, my concerns regarding racism and bigotry were quickly alleviated. I was quickly accepted into the community and never once made to feel uncomfortable or like an outsider because I was not black. Indeed, the topic of racial discrimination only came up one time: in my interview with Sonny. His perspective was that his life’s failures were largely due to prejudice and racism.

As already discussed, there was parity between the two groups in terms of education. Money was also not the issue I anticipated. As noted earlier, there was a vast gap between the income levels at the two field sites. But the focus of this constructivist study was not on how many dollars they had in the bank; it was on how the participants themselves perceived their financial well-being. Appendix I shows that most of the participants—regardless of location—felt they were ‘comfortable’ or ‘getting by’.

So, what is one to make of this? While it is impossible to generalize from such a small sample, it would appear that the Fourth Age is a great leveler. Education, socio-economic issues, and race appeared to decline in importance for my participants. On the other hand, the importance of the local environment and age-related losses appeared to increase. The similarity in LSIA scores at the two sites would appear to support this argument. There is also some support for this argument in the literature, e.g., Zickuhr & Smith, 2012, p. 5).

6.3 Research question 1

“What roles do information and technology play in the daily lives of retirement community residents who are in the Fourth Age?” The best way to answer this question is by summarizing the findings from the related study goals. These were: (1) to identify the participants’ information needs, (2) to discover the sources they used to meet those
needs, and (3) to investigate their use of computers and the Internet for meeting their information needs.

**6.3.1 Goal: Identify the participants’ information needs**

Five categories of information needs were identified: (1) information the participants needed when they chose their retirement community; (2) information they needed for daily living; (3) information concerning the small world of the retirement community; (4) information about happenings in the greater world; and (5) a need for positive affective information. As discussed in Chapter 4, overall the information needs of all the participants in the Fourth Age declined among those that were observed over the two-year course of this study. The exception was the need for positive affective information that appeared to increase as the participants became more dependent on others. This decline was not observed in the two outliers who were still in the Third Age.

This general decline in the number of information needs matched the findings of Williamson (1995, 1997,1998). What the present study adds to that knowledge base is the finding that this decline in information needs can be slowed and sometimes temporarily reversed in the Fourth Age—and that information plays a part in this. How this may be accomplished will be be discussed further on.

*Choosing a retirement community.* The Osgood (1983) study focuses primarily on healthy adults (i.e., in the Third Age) who wanted information about moving to leisure-time retirement communities in the US Sunbelt. The present study identifies a second group of persons who need information about retirement communities: people who chose to ‘age in place’ when they retired and whose health is now beginning to fail as they enter the Fourth Age. This group is primarily interested in information related to their future security and peace of mind. The questions they most often want answered are: “Will I like the people who live there?” “Will I be safe?” and, most important, “Is it close to my caregiver?”

Given the option, the members of this second group prefer to stay in familiar surroundings, selecting a retirement community that is in their old neighborhood and one at which they already have friends among the residents. This helps assure the company of like-minded individuals and familiar culture and customs.
People in this situation recognize they are growing increasingly frail, so they also want to be assured that the retirement community will provide for their physical safety. This information is primarily visual: the presence of locked gates and doors, video surveillance cameras, and security patrols.

The most important information need for retirement community seekers is to know that their designated caregivers live close by. This is usually a daughter or niece who can be counted on to serve as a proxy information seeker when and if the need arises. This need appeared to trump all others. Indeed, several of the participants left behind their social networks and moved here from other states in order to be close to their caregivers. It is worth noting that those out-of-state ‘immigrants’ were noticeably unhappier during the interviews and scored lower on the Life Satisfaction Index A (LSIA)—yet they still moved.

**Information needs of daily living.** Everybody needs information on a regular basis as they go about their everyday lives, what Savolainen (1995, p. 272) termed ‘practical information’. Several findings from the present study add to our knowledge regarding everyday life information (ELI) needs in the Fourth Age; most notably that these needs continue to dwindle.

As noted at the beginning of this section, the findings by and large supported Williamson’s (1995, 1997, 1998) conclusion that information needs continue to shrink in the Fourth Age. Furthermore, there was agreement between the two studies about the four most important ELI needs: health, pharmaceuticals, income and finance, and recreation. The findings in the present study also matched five out of the eight remaining ELI needs that Williamson identified as significant among her group of Very Old participants (aged 85+), the closest chronological age match to the Fourth Age. This apparent congruity is significant as it appears to mark the first time two major LIS aging studies have arrived at similar findings with regard to the ELI needs of those in the Fourth Age. As Williamson’s work was the only LIS aging study to clearly identify and discuss the shrinking information needs of the Very Old, that study clearly had an influence on the questions asked, and prompts used, in the present study. In defense of this deliberate decision, it should be pointed out that the topics are very obvious ones for
all people; Williamson herself was merely building on earlier LIS studies that identified the everyday life information needs of participants in the First and Second Ages of life.

One ELI need that Williamson (1995, 1997, 1998) incorporated under the heading of ‘recreation’ was activities that provided mental stimulation. The present study found that this need remained strong in the Fourth Age and should be considered in its own right. As discussed in Chapter 4, almost all of the participants expressed a need for information that mentally challenged them in a safe, non-competitive fashion. They indicated a major source of such mentally challenging information was television game shows. This suggests individuals continue to have an instinctive need to exercise their minds and compete even towards the end of life. Furthermore, they appear to do so by engaging in what some earlier researchers may have dismissed as a trivial entertainment pursuit.

*Information regarding the small world.* As the participants moved through the Fourth Age, they became increasingly cloistered within the small world of the retirement community. There was a need for practical information regarding transportation services, staff availability, meals, and the kinds of scheduled recreational and voluntary activities discussed in Chapter 4. One of the most interesting HIB findings was the participants’ sometimes almost obsessive need for information about the health of other residents.

There was a yin and yang quality to this information need. On the positive side, the participants often demonstrated genuine concern for their neighbors’ well-being. They were quite vocal in expressing their frustration that HIPAA laws prohibited management from immediately sharing information about the condition of fellow residents who were in the hospital. The residents themselves were so open to sharing their health problems with one another that some participants quipped that was all they ever talked about. On the negative side, other residents who displayed evidence of certain health problems were looked upon unfavorably, perhaps because they evoked a “There but the grace of God go I” response. Healthier residents at both field sites were very vocal about the fact that they lived in an *independent* living facility and people should not be allowed to live there if they needed wheelchairs and walkers to get around, or were given to wandering and other behaviors indicative of early dementia.
**Information about happenings in the greater world.** Cloistered though they were, all of the independent living participants continued to seek orienting information about the outside world in order to update their internal models of the world. Not surprisingly, obituaries and news about local and national events were the primary interests. Bad news (negative affective information) on television and in the newspaper became grist for the mill at morning coffee and often was cause for distress.

**Positive affective information.** This is the first LIS study to explore the need for positive affective information in the Fourth Age. There is a substantial body of evidence that a positive attitude and being in a positive environment can add years to one’s life, increase life satisfaction and improve older adults’ abilities to interpret and retain information.

The findings reported in Chapter 4 clearly demonstrate the participants’ need for positive affective information as well as their expressed need to personally maintain a positive outlook. They actively sought out positive situations and people and shunned the negative. This carried over to their taste in television as well; they disparaged what they saw as an unhealthy trend towards portraying ugliness and violence in entertainment shows and the news.

In short, the findings strongly suggest that, while negative emotions may be invaluable motivators in the short term, positive emotions are the key to long-term survival, as Vaillant (2008) suggested. This finding opens up an intriguing new avenue of research for those interested in exploring affect-as-information with any age group.

**6.3.2 Goal: Discover the sources used to meet those needs**

The hierarchy of information sources described in Chapter 4 closely matched those that have been identified by earlier LIS aging researchers and included, in order of priority, caregivers, intimate personal networks (family and close friends, some employees), wider personal networks (old and new acquaintances, some employees), mass media (e.g., television, newspapers), small world sources (employees, gatherings, publications, information grounds, and outside professional and institutional information sources such as lawyers and physicians).
One piece of information this study adds to our knowledge of information sources in retirement communities is that employees were not always perceived negatively as Chatman (1991, 1992) suggested. At The Midlands, the majority of residents saw staff members as sources of positive affective information and, as they got to know them, some even included staff members among the ranks of their intimate friends. Much of this may be attributed to the culture of the place that attracted residents and staff members who cared for others and had a sunny attitude—and quickly weeded out anyone who did not fit the mold. The resident-employee relationship at Plaza Towers more closely resembled Chatman’s views. Almost half of the participants there had moved back from out of town, did not know anyone at Plaza Towers when they arrived, and indicated they had made few new friends since moving in. As a group, these ‘immigrants’ tended to be more critical about employees and other residents.

Following this line of thought, the present study both supports and challenges the conclusions of the ambitious Pathways to Life Quality study that was discussed at length in Chapter 2 (Wethington & Krout, 2003). Both that study and this one employed ecological theory, which recognizes that physical and social environments may either help or hinder an individual in compensating for the physical, cognitive and social losses that often appear at the far end of the lifespan. Second, both studies found that maintaining personal interests was very important to participants; information needs help maintain information literacy (although the Pathways study did not employ those terms, per se). Likewise, both studies noted that the residents sought to maintain their role identities. The two case studies in Chapter 5 spoke of Starr’s and Cherrie’s strong desires to maintain their personal interests and earlier role identities. How well the macrosystems of the two retirement communities supported the two women’s wishes will be discussed further on.

The Pathways study and the present study differed in that the Pathways study argued that making new friends was a primary motivation for moving to a retirement community. In contrast to this, the participants in the present study reported that they had made few, if any, close friends since they moved in; rather the other residents and some of the employees were more often seen as acquaintances. Furthermore, a number of the participants in the present study reported becoming bored with talking to the same
old people every day. At The Midlands, mealtimes offered the greatest opportunity for meeting unfamiliar people with new stories. Some of the more creative solutions for finding new tablemates included switching mealtimes and eating lunch rather than supper in the dining room, asking the hostess to seat them with residents who had recently moved in, and—the ultimate serendipity—sitting by the elevator and asking the first resident to emerge and inviting that person to share a meal.

Finally, no discussion of information sources would be complete without making mention of information grounds. As noted in Chapter 2, Karen Fisher (nee Pettigrew) defined an information ground as an “environment temporarily created by the behavior of people who have come together to perform a given task, but from which emerges a social atmosphere that fosters the spontaneous and serendipitous sharing of information” (Pettigrew, 1999, p. 811). Within the small worlds of the two retirement communities, information grounds, such as the dining room and card rooms, were major sources of everyday life information, especially gossip and rumors. Experiments at The Midlands demonstrated that management could effectively use information grounds to communicate accurate information to residents and staff members. The means by which The Midlands channeled the flow of information to these information grounds and the effectiveness of those efforts may be found in Chapter 4.

6.3.3 Goal: Investigate the use of computers and the Internet for meeting information needs

Merrell (2001) found that individuals with positive attitudes were more apt to be wired. The present study found no relationship between computer/Internet usage and positive attitudes. This may have been due the fact the present study involved individuals in the Fourth Age as Merrell found that exposure to the Internet had no significant impact on positive attitudes among those who were in below-average health.

Thirteen of the 25 participants were purposefully selected because they used computers/the Internet to help meet their information needs. Their reported uses for this technology generally coincided with those reported in other computer/Internet studies and included playing computer games (8), e-mailing (8), searching for information (6), writing letters, books and life stories (6), and doing financials (6). Of the twelve participants who did not use computers and/or the Internet, the most common reason
given was that they had no need for it. Of greater interest, was the fact that three of the participants indicated they would probably not have taken it up had it not been for peer pressure from family members.

These numbers are only of passing historical interest. Succeeding generations who enter the Fourth Age will have grown up with these technologies and the numbers and uses can be expected to change dramatically. What is less likely to change is the negative impact on people’s abilities to use this technology due to the physical and cognitive losses that accompany the Fourth Age. This will be discussed further on.

6.4 Research question 2
“What is the relationship between the HIB of people in the Fourth Age and whether or not they perceive themselves to be aging successfully?” As mentioned earlier, the bad news that emerged from this study was that information literacy skills diminished over the course of the Fourth Age. The good news was that many of the participants were able to prolong their existing information literacy skills with the proper motivation and support.

This section opens with an LIS definition for successful aging in the Fourth Age. As with the first research question, the answer then emerges from the discussion of a set of related goals: (1) to explore the extent of active information seeking by participants; (2) to explore the processes by which they were able to acquire information through the context of their everyday lives; and (3) to examine whether physical, cognitive and social losses had an impact on all of the above.

6.4.1 An LIS definition of successful aging
The present study marks the first attempt to develop and evaluate a LIS definition of successful aging for the Fourth Age. As I first proposed in Williamson and Asla (2009, p. 81), and as discussed in Chapter 2, successful aging is defined here as the “compression of information illiteracy”; that is to say, the postponement of the rate, or minimization of the proportion, of lost HIB skills until as near the end of life as possible. This LIS definition is underpinned by the LSDT concept of Selectivity-Optimization-Compensation (SOC): individuals in the Fourth Age select those personal goals that are most central to their continuing sense of personal fulfillment and zest for
life, they *optimize* their existing information skills to meet the information needs that arise and *compensate* for losses through the assistance of outside parties and/or technology.

6.4.2 Goal: Explore the extent of active information seeking

As reported in Chapters 3 and 4, the participants’ sense of successfully aging was determined by administering the Life Satisfaction Index A (LSIA) as part of the interview process. The fact that the scores of those who were on the cusp of the Fourth Age were higher (i.e., more positive) than those nearing the end, came as no surprise. The surprise was finding that, regardless of their overall scores, nearly 80 percent of The Midlands participants indicated they had made plans for what they would be doing for the next month and year, as opposed to only 20 percent of the Plaza Towers participants. Put another way, the number of residents who anticipated future information needs at The Midlands out-numbered their counterparts at Plaza Towers by a ratio of almost four to one.

As detailed in Chapters 3 and 4, information seeking was stimulated in the context of one retirement community, but not the other. Although it was never expressed in these terms, it was clear that management and employees at The Midlands helped residents maintain their existing information skills by helping them develop programs and services keyed to their personal interests, thus creating information needs, and by helping them maintain their information literacy. Plaza Towers, on the other hand, was rarely able to provide such programs and services unless volunteers could be found to offer them.

This is an essential finding. It would suggest that elements in the macrosystem of the physical environment (in this case the retirement community) can slow the progress of information illiteracy. Left largely to their own devices, the information literacy of Plaza Towers participants declined; thanks to the programs, information interventions and technology support provided at The Midlands, participants there remained information literate longer because they were able to prolong the period during which they could continue the pursuit of their personal interests.
6.4.3 Goal: Explore the processes of information acquisition through the context of everyday life

As noted in Chapter 4, Williamson (1995, 1997, 1998) found that older people regularly monitor their environment for relevant information. As a consequence, some ‘unconscious’ needs are incidentally met when relevant information is ‘discovered’, a process Williamson termed incidental information acquisition (IIA). As shown in Figure 6.1 below, this involved a number of information sources including caregivers, intimate personal networks, wider personal networks, mass media, small world sources, outside sources (i.e., professionals and institutions) and computers and the Internet. The participants’ IIA frequently revolved around health issues involving themselves or their immediate family members.

As people progressed into the Fourth Age, and moved through it, they were less likely to be able to acquire information incidentally. Their intimate and wider personal networks tended to shrink and their use of the mass media sources, for example, tended to decline. These issues are examined further, below.

6.4.4 Goal: Examine whether physical, cognitive and social losses had an impact on all of the above

Viewed from the participants’ perspectives, nothing had a greater effect on the participants’ HIB than the physical and cognitive losses that impacted their abilities to seek and process information, their shrinking social networks that were major information sources for both practical and affective information, and their decisions to move to a retirement community. The discussion below regarding my ecological model of HIB in the Fourth Age (Figure 6.1) helps clarify why this is so.

Two observations need to be shared here before launching into a discussion of the model’s components. First, one of the strengths of the ecological model is its flexibility. This immediately becomes clear when one compares my two-dimensional model on the next page to Williamson’s (1998) original ecological model of human information use presented in Chapter 2. The placement of various terms has been reversed in my model and a number of new terms have been added in order to more accurately reflect HIB in the Fourth Age. Second, this two-dimensional graphical representation, like all models, is reductionist in nature. Much as a movie based on a novel condenses and combines
elements from the book in order to clearly and succinctly tell a comprehensible visual story, graphic models reduce ‘the story’ down to the key points in the findings while necessarily omitting some of the details.

Figure 6.1 Ecological model of human information behavior in the Fourth Age

In Figure 6.1, the information-seeking processes are represented as arrows indicating the three kinds of information-seeking behaviors that were identified: purposeful information seeking (PIS); incidental information acquisition (IIA); and engaging proxy information seekers. The elements beyond the outer ring represent information sources used in the Fourth Age as identified in this study. They are ranked in order of importance, beginning with ‘Caregiver’ and moving clockwise. The factors affecting HIB processes begin at the center (surrounding the inner circle encompassing ‘Fourth Age HIB’) and work outward in the order of their impact on the individual’s ability to seek, process and share information, again as gauged by the research. The key elements in the model are discussed below.
**Information processes.** There are three major information processes: purposeful information seeking, incidental information acquisition, and proxy information seeking.

**Purposeful information seeking.** The solid arrows that point outward to the information sources represent PIS. As explained in Chapter 2, PIS involves people seeking information to meet perceived needs or gaps in knowledge. As the model indicates, the participants employed PIS to some extent in connection with all of their information sources.

**Incidental information acquisition.** The dotted arrows represent IIA and move from the information sources to the center, indicating that individuals serendipitously encountered the information rather than sought it purposefully. In some cases they may not consciously have known they needed the information until after they discovered it; or they may have been aware of wanting to know something but had not made the effort to find out. The participants were most apt to incidentally acquire information from caregivers, their social networks, mass media, and computers and the Internet.

**Proxy information seekers.** The circles on the PIS arrows pointing to ‘outside professional/ institutional sources’ and ‘computers/Internet’ indicate that members of the Fourth Age sometimes employ proxy information seekers when information is needed from these sources. Especially at The Midlands, participants had direct access to a range of professionals, but other institutional sources, such as government agencies, were almost always approached by proxy information seekers. Most often the proxy information seeker is the individual’s caregiver, a family member or close friend, although computer center staff members at The Midlands might check airline schedules on the computer, or a nurse aide might call the pharmacy to check on a prescription.

**Principal information sources.** The principal information sources identified in this study are shown on the periphery of the model. They are: caregivers, intimate personal networks, wider personal networks, mass media, professional/institutional sources, and computers and the Internet.
Caregivers. As noted in Chapter 4, an informal caregiver “is an unpaid individual (a spouse, partner, family member, friend, or neighbor) involved in assisting others with activities of daily living and/or medical tasks” (Family Caregiver Alliance, 2012, p.1). They are the primary PIS and IIA sources, as well as major proxy information seekers. Consequently, they are privy to what Chatman (1992, p. 126) called ‘third-level information’ or ‘secret information’. Loss of his or her caregiver would be a major life loss with serious consequences to the care recipient’s HIB.

Intimate personal networks. These networks largely comprise long-time friends and family members. During the Fourth Age, shrinking intimate personal networks represent a major loss of PIA and IIA sources as well potential proxy information seekers. Intimate personal interworks are also important sources of positive affective information, making their loss doubly hard. Along with caregivers, these are the individuals with whom participants are most likely to share what Chatman termed ‘second-level information’, e.g., personal finances, problems with other residents, or legal matters (Chatman (1992, p. 125).

Wider social networks. This refers to acquaintances as opposed to friends. Members of this group tend to drop away in the Fourth Age as the emotional commitment to stay in contact weakens. Unless they already were friends when they moved in, the participants are more apt to rank their fellow residents as acquaintances, i.e., someone with whom one shares general information but nothing of an intensely personal nature (e.g., local news events, recent TV programs, shared life experiences, and subjects related to life within the community). This is what Chatman (1992) termed ‘first-level information’ or ‘chit chat’ (p. 125). These individuals are information sources, both for PIS and IIA.

Mass media. For the model, media includes television, radio and printed materials. These are sources for both PIS and IIA. Television game shows were seen as good sources of mental stimulation. An example of the former is where participants watched games shows purposefully—and often learned from them. An example of the latter is where they encountered information, e.g. in the newspapers, which was unexpected but useful.
Outside professional/institutional sources. These include lawyers, physicians, bank officers, accountants, social and professional organizations, government officials and clergy. All else being equal, these are PIS sources for what Chatman (1992, p.126) called ‘third-level information’ or ‘secret information’. Occasionally, they were IIA sources as well.

Computers and the Internet. Information-related activities on the computer include such mentally stimulating activities as playing games, writing letters, books and life stories. Internet activities include sending e-mails, online searching and shopping. These are sources of both IIA and PIS. Proxy information seekers are also enlisted to employ this information source, either because the participant does not have access to a computer and/or the Internet, or chooses not to use them, or because he or she is unable to use them due to physical and/or cognitive losses.

Factors impacting the HIB process and therefore information literacy. As indicated by the model above, the individual’s ability to seek, process and share information is impacted by a number of factors. These include emotions, cognitive abilities, physical abilities, values, education, socio-economic status, the small world environment and the outside world environment.

Emotions. The need for positive affective information colored the HIB of all the participants in this study. As discussed in Chapter 4, positive emotions appear to be a survival mechanism and have an impact on the ability to learn and retain new information. At the end of life, even when rational thought and memories are gone, emotions remain.

Cognitive abilities. Late in life, the ability to formulate information needs and then seek, process, and finally share that information is often inhibited by declining cognition and loss of plasticity. The worst cognitive disabilities, dementias such as Alzheimer’s disease, afflict about half of all members in the Fourth Age and ultimately destroy the mind and personality.
Physical abilities. Failing senses—hearing, vision, smell, taste and touch—can isolate the individual from the external world. Other kinds of physical losses, such as chronic illnesses, may limit mobility.

Values. Values are personally and socially constructed and then reinforced/modified/discard based on life experiences. With regard to choosing a retirement community, individuals seek the company of others who share their value systems.

Education. Facts, figures and popular culture endorse the idea that those with a college education do better in life and the participants in this study who have more education display a wider range of interests, along with more information literacy skills. However, the Fourth Age is a great leveler when it comes to having the continuing ability to pursue interests with a sense of purpose. Indeed, the great irony is that those with the most knowledge and information literacy skills have the most to lose.

Socio-economic status. Economic status affects the choice of living accommodations, including which retirement community one can afford. Social status, which often reflects financial status, inclines participants towards those retirement communities whose residents’ value system mirror their own, just as it earlier guided their choices of neighborhoods or communities. While it is true that retirement communities that cater to the affluent can afford to offer more HIB-related services, personal experience suggests that may not always be the case as will be discussed below.

Small world environment. Individuals become increasingly cloistered in the Fourth Age, regardless of whether their small world is a private dwelling, apartment, or a retirement community. What are critical to successful aging are the resources their small worlds provide that can help them find self-purpose and interact with social networks, thus, helping them maintain their information literacy skills. More on-going programs based on individuals’ interests are needed in order to help them continue generating information needs and therefore help them maintain their information literacy for as long as possible.

The outside world environment. In a small world environment, most of the information gleaned from the outside world comes through mass media. One influence of the outside
world is the ‘Great Recession’ global financial crisis which has had an impact on the Fourth Age, as on everyone else. Government programs, personal incomes and family finances have all been affected, as well as the finances of retirement communities and their services.

**6.5 Study limitations**

This is a small, primarily qualitative study involving 25 participants at two field sites. Therefore, one should not generalize too broadly from its findings. Furthermore, my participants’ responses reflect the thinking and shared life experiences of their generation which most likely are not those of the upcoming baby boom generation of elders, particularly with respect to technology. The study is also grounded in the socio-economic macrosystem of its day. Future studies conducted in other locations may very well yield somewhat different results.

The one area where I do not expect to see substantive changes in the immediate future is in the impact of physical and cognitive losses on the HIB of individuals in the Fourth Age. Diseases such as Alzheimer’s, which afflicts 50 percent of everyone in their 80s, and age-related macular degeneration (AMD), which afflicts an estimated 30 percent, are not generational issues but, rather realities of the human condition at present. This should be a matter of serious concern, both to government and LIS researchers, as it clearly indicates that members of the Fourth Age cannot use information technologies as they currently exist. Nowhere is the digital divide greater than in the Fourth Age. As those in the Fourth Age cannot change, technology must.

**6.6 Suggestions for future research**

There is a case to be made for truly multidisciplinary studies that can be read and understood by those both inside and outside the LIS discipline, as raised below. A number of other possible research topics have also been suggested by the present study.

**6.6.1 The need for multidisciplinary aging studies**

Prior to this study, only a handful of LIS aging studies employed gerontological theories and even these have been scattershot across the gerontological map with little consideration given to how they might be joined together to form a larger, more coherent picture of HIB in the Third and Fourth Ages. Therefore, considerable space in
Chapter 2 was devoted to presenting a number of theories from LIS and the social sciences, and demonstrating how they could be inter-connected through the metatheory of lifespan development theory (LSDT), thus arriving at a much richer and deeper understanding of the materials.

If the goal is to create a useful body of integrated knowledge, LIS researchers could do much worse than choosing ecological theory as their starting point for further studies of older people. As discussed in Chapter 2, ecological theory falls beneath the metatheoretical umbrella of LSDT. Thus, employing an ecological model as does the present study, adds to an already huge body of accumulated gerontological knowledge. Information topics may be placed within the inner circles of the mesosystem and microsystem and then be studied through any, or all, of the macrosystems, e.g., ‘socio-economics’ or ‘the physical environment’, represented outside the nested circle. The ecological model of human information behavior in the Fourth Age (Figure 6.1 above) illustrates this point. Most important, many gerontologists—especially those in psychology—can relate to an ecological model and more easily interpret it as it employs familiar terms and is founded on a well-accepted metatheory with which they are already familiar.

Employing Four Ages theory would also be advisable. In Man and Superman, one of George Bernard Shaw’s characters quips that “The only man I know who behaves sensibly is my tailor; he takes my measurements anew each time he sees me. The rest go on with their old measurements and expect me to fit them.” In a similar fashion, future LIS aging researchers are encouraged to behave sensibly and use Four Ages theory to measure their subjects anew rather than employing the discredited old measurement system of chronological age. In this way, they can begin to develop a unified body of useful knowledge on the subject—something that at present is sorely lacking.

6.6.2 The correlation between driving cessation and the Fourth Age
As discussed in Chapters 2 and 3, US healthcare privacy laws make it a challenge to identify potential participants in order to conduct information research in the Fourth Age. If it can be shown that there is a correlation between membership in the Fourth Age and driving cessation, this may help provide a partial solution. However, more research is needed before we can generalize as to where and when driving cessation
equates with membership in the Fourth Age. This study took place in a sprawling city on the Great Plains where it is not uncommon for people to live miles from where they work, play and shop, and where, as one participant colorfully observed, the public transportation system “isn’t worth a spit.” If driving cessation can be shown to be a reasonably accurate means of identifying members of the Fourth Age in other locations, this would greatly speed up the research preliminaries and perhaps more LIS researchers would be encouraged to study the Fourth Age. This has wider implications for aging research as such a tool would no doubt be useful in other sociological disciplines.

6.6.3 The value of game shows as intellectual exercise
In the past, television game shows, such as Wheel of Fortune and Jeopardy, may have been regarded as being frivolous entertainment. But this study’s participants see them as an enjoyable form of non-threatening intellectual exercise. If further studies support this finding, and appropriate training materials can be developed and tested, this will validate retirement community activities staff members who already use the quiz show format with their residents to stimulate memory.

6.6.4 Long-term evaluations of information literacy skills
Numerous studies in LIS, computer science, and information technology have explored training older adults to master new technology skills. As noted in Chapter 2, these studies have usually been flawed in two ways. First, as has been repeatedly remarked, the studies’ designers used chronological age to select their participants, sometimes defining ‘old’ when referring to people as young as age 50. Inevitably this led to the data from participants in the Third and Fourth Ages being co-mingled, resulting in false and sometimes wildly overly-optimistic findings. Second, the lengths of these technology training studies were generally too short. The present study, which lasted two years rather than two weeks or months, suggests that repeated training and ever-increasing one-on-one computer support are required just to help members of the Fourth Age maintain their existing computer literacy skills.

6.6.5 Death anxiety as an information need
More research is required into information needs associated with death anxiety in the Second and Third Ages, as well as the Fourth Age. Chatman (1991, 1992) identified
death anxiety as motivating information needs for her older adults. As noted in Chapter 4, such an association is not prominent in the findings from the present study. As discussed in Chapter 2, Duff and Hong (1995) offered one possible explanation for these conflicted findings: strong religiosity is closely associated with lowered death anxiety. All but three of the participants in the present study consider themselves to be highly religious. The possibility also exists that death anxiety is more pronounced in the Third Age than it is in the Fourth Age, when death is a constant (and sometimes welcome) companion.

### 6.6.6 Roles of proxy information seekers

The value of proxy information seekers with regard to individuals in the Fourth Age needs further exploration. Are proxy information seekers valuable tools for extending some sense of personal control over a person’s life? Or are there instances where proxy information seekers run the risk of creating learned dependency in those they are trying to help? This problem is especially critical in retirement communities; I have seen eager, well-meaning staff members who were overly helpful and, to coin a phrase, ‘loved their residents to death’.

### 6.6.7 New adaptive information technologies

At present there are no cures for Alzheimer’s disease and AMD and all of the other diseases that rob members of the Fourth Age of their abilities to seek, process, and share information. Until such time comes, researchers need to continue testing and evaluating new adaptive technologies.

### 6.6.8 Caregivers’ information needs

All too often, caregivers are ill-prepared for the task and uninformed. More research needs to be conducted into ways to improve the information literacy of caregivers with regard to accessing information and resources related to the needs of those for whom they are seeking information, as well information that will help them maintain their own health and emotional well-being.

### 6.7 Creating Camelot: A reflection on past and future

What makes a retirement community a wonderful place to live, a ‘Camelot’ if you will? Based simply on the findings presented in Chapter 4, one might conclude that the
affluent socio-economic status of The Midlands residents bought them access to more services and programs and, as a result, they enjoyed a much higher level of successful aging in terms of compressing information illiteracy than did their counterparts at Plaza Towers. Based on 30 years of experience in the retirement community field, I no longer believe this is the case. Like their namesakes, Camelots rise and fall.

For example, The Midlands I describe here no longer exists. Two years ago, the board hired a new chief executive officer (CEO). Subsequently, most of the department directors, all of whom had been there for a decade or longer, were fired or quit. In making a clean sweep, the CEO’s new broom had effectively eliminated the caretakers of the caring, positive compassionate culture that attracted new residents and made The Midlands one of the most financially-solid and highly-respected retirement communities in the Midwest. Also tipped into the dustbin were many of the innovative programs discussed in Chapter 4 that had helped residents compress their information illiteracy. As a result of these and other actions, reliable sources report occupancy has fallen from 96 percent to 86 percent, resulting in severe financial straits. Like its mythical predecessor, ‘Camelot’ has fallen.

So, what does make a retirement community a ‘Camelot’? If it were simply a matter of money, every high-dollar retirement community would be a ‘Camelot’—and in my experience that most definitely is not the case. Over the past three decades, I have been involved with any number of retirement communities that catered to upper-, middle-, or low-income seniors. Besides The Midlands, the only other ‘Camelot’ I ever encountered was a low-income senior housing project in Sausalito, California.

Rather than simply being about money, I would argue that ‘Camelot’ is a retirement community that cultivates a culture of compassionate caring. Based on the findings of this study, three important aspects of such a Camelot Culture are positive affective information, outstanding communications, and programs and services that help residents maintain their interests in life, thus creating information needs and helping them maintain their information literacy.
So, could Plaza Towers ever become another ‘Camelot’? I found the people there to be warmly cordial and inviting. So, the answer most decidedly is “yes” if some changes could be made:

- At present, the apartment complex and the senior center that make up the Plaza Towers complex are operated by two separate organizations and there is little coordination in terms of programs, staffing, or facility usage. This would need to change.

- The culture at the senior center would need to adapt. As noted in earlier chapters, that culture is primarily made up of friends from around the immediate neighborhood who are still in the Third Age. (People in the surrounding area who are members of the Fourth Age no longer drive and, therefore, are less likely to use the senior center.) Creating a culture that would also be supportive of Plaza Tower residents who are in the Fourth Age would require both time and effort.

- More on-going programs based on individuals’ interests are needed in order to help them to continue to generate information needs and therefore maintain their information literacy. At present, programs often lack continuity as they are almost entirely dependent on volunteers. The solution to this challenge lies with the not-for-profit organization that runs three other senior centers in the city along with the one at Plaza North. A single facilitator, hired by the parent organization and who would serve all of the centers, could provide much-needed continuity for computer classes as well as training volunteers to help others with their life stories and other creative projects.

- Improved communications that provide more opportunities for IIA would also be necessary in order to help compensate for memory loss. As noted earlier, experience at The Midlands shows that every message concerning upcoming events ideally should be repeated at least three times. A single monthly newsletter/event calendar is simply not sufficient. Additionally, staff members need to remind individuals when they see them and visual reminders like posters or television ‘billboards’ need to be prominently located in key locations.
Finally, the managers of the apartment complex and the senior center would have to reach out personally and break down the invisible wall that separates the two adjoining complexes. This would involve cooperative planning and setting an example for others.

Ultimately, it is leadership and vision that creates a caring, information-rich and compassionate ‘Camelot’.

6.8 Final remarks
This report is timely, coming as it does at a moment when the global community faces the urgent need to develop new solutions to address a historically unprecedented increase in the older population. In the absence of new thinking and knowledge on our part, there is a great risk our leaders may fall back on old solutions. Even as I write these final remarks, the Finance Minister of Japan, the second largest economy on earth, has gone on record as suggesting that Japan’s elders should be encouraged to “hurry up and die” so as not be a burden on that nation’s resources (Nelson, 2013, p. 1). Ten thousand years ago, nomadic hunter-gatherer societies had no other choice but to abandon their elderly and infirm members alongside the trail if the tribe was to survive. With all of the resources societies have at their disposal today, I remain optimistic that we can find a more humane, positive solution.
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APPENDICES
APPENDIX A: ETHICS MATERIALS

The approved ethics materials consisted of the Information Statement and the Participant Consent Form. Both documents were verbally reviewed with each participant before the interview began. The participant kept the Information Statement. The signed Participant Consent Forms were kept in a locked file cabinet in my home office. Note: The materials have been reformatted to fit this space. Also, any mention of place has been omitted to preserve the participants’ anonymity.

INFORMATION STATEMENT

[Charles Sturt University (CSU) Ethics Committee letterhead omitted here.]

Would you be interested in volunteering to take part in an important research study on successful aging?

Name of the study: “The Oldest Old: Information, Communication, and Successful Aging”

Purpose of the study: As America ages, the issue of what constitutes good or successful aging continues to grow in importance. The government and others often simply define everyone over the age of 65 as ‘old.’ However, we have come to realize that needs, abilities, and resources may change dramatically in their later years. Once only a small part of the overall population, the oldest old category is now one of the fastest growing—and its numbers are expected to continue increasing dramatically for the next 50 years. Consequently, we may know less about this age group than any other—and we know even less about the oldest old who live in the some 40,000 age-segregated congregate-living communities in this country (retirement communities, senior housing, etc.) This is particularly true in the field of Information studies where this population remains largely unstudied.

To help rectify the latter problem, this study will examine the relationship between participants’ self-perceptions of whether or not they are aging successfully and the means by which they make sense of what is going on in the world around them. What
interests or concerns them? How do they go about finding the answers to their questions? What roles do the media and their networks of friends and families play in this process? The answers to these and other questions may be of great value to older persons and their families, as well as service providers, such as retirement communities and senior centers.

**What will be required of participants:** Volunteers at two [city name omitted] retirement communities are invited to apply if they are interested in participating. The researcher will identify residents from each community whom he would like to interview. Each interview will last about an hour, at the beginning of which the researcher will need to gather some background information, such as the number of living family members. The interviews will be tape recorded and transcribed. Each participant will be invited to review his or her typed transcript for accuracy and given an opportunity to add clarifying remarks. Participants may withdraw from the study at any time, without fear of being subjected to any penalty or discriminatory treatment.

**Possible risks:** On very rare occasions, recalling the past may make one feel sad or depressed. In that unlikely event, the interview can be stopped. In very serious cases, professional mental health assistance can be arranged.

**Participant confidentiality:** When they sign the consent form, the participants will be asked to select alias names. Those aliases will then be used to identify all records and tapes, helping assure anonymity.

**Who to contact for more information:**
The principal investigator is Terryl M. Asla who is conducting this study in fulfillment of his doctoral studies at Charles Sturt University in Australia. His doctoral supervisor is Dr. Kirsty Williamson, a leading authority on information behaviour and aging. They may be contacted as follows:

**Principal investigator/PhD candidate:** Terryl M. Asla. [Personal contact information has been omitted.]
Doctoral supervisor: Dr Kirsty Williamson, Director, Information and Telecommunications Needs Research, School of Information Studies, Charles Sturt University. [Personal contact information has been omitted.]

Ethics approval: The Charles Sturt University Ethics in Human Research Committee has approved this project. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee through the Executive Officer:

The Executive Officer
Ethics in Human Research Committee
Academic Secretariat
Charles Sturt University
Private Mail Bag 29
Bathurst, New South Wales 2795
Tel: 011-61-02-6338-4628*
Fax: 011-61-02-6338-4194

Any issues you raise will be treated in confidence and investigated fully and you will be informed of the outcome.

*If telephoning Dr. Williamson or the Executive Officer of the Ethics in Human Research Committee, please remember that it is 12-14 hours later in Australia.

[Color map of Australia showing location of CSU has been omitted here.]

About Charles Sturt University: Charles Sturt University (CSU) is a multi-campus university with established traditions and a proud record of higher education in Australia spanning more than 100 years. The university is named in honor of the explorer Captain Charles Sturt who, in the 1820s - 1830s, mapped the main rivers of eastern Australia and opened up vast areas of the State of New South Wales in which CSU’s three campuses are located. CSU is an international leader in the delivery of information technology services. It is one of the largest distance education course providers in Australia, with thousands of students studying CSU courses at home from all over the world—including [state name omitted]. To learn more about CSU, visit its web site at http://www.csu.edu.au.
PARTICIPANT CONSENT FORM

Name of Study: ‘The Fourth Age: Human Information Behavior and Successful Aging’
Principal Investigator/PhD candidate: Terryl M. Asla. [Contact information omitted.]
Doctoral supervisor: Dr Kirsty Williamson, Director, Information and Telecommunications Needs Research, School of Information Studies, Charles Sturt University. PO Box 197, Caulfield East, Victoria AU 3145. [Personal contact information for candidate and supervisor omitted here.]

Please read and initial each box before signing. If you cannot read the print, it will be read to you:
I understand that I am free to withdraw my participation in the research at any time, and that if I do, I will not be subjected to any penalty or discriminatory treatment.
I have been given the opportunity to ask questions about the research and received satisfactory answers.
I understand that any information or personal details gathered in the course of this research about me are confidential and that neither my name nor any other identifying information will be used or published without my written permission.
Charles Sturt University’s Ethics in Human Research Committee has approved this study. I understand that if I have any complaints or concerns about this research I can contact:

Executive Officer, Ethics in Human Research Committee
Academic Secretariat
Charles Sturt University
Private Mail Bag 29
Bathurst NSW 2795
Phone: 011-61-02-6338-4628
Fax: 011-61-02-6338-4194

Signed by: ____________________________ Date: ______________
The alias name I have chosen for this study is: ____________________________

To be completed only if the signer is the legal caregiver for the participant:
As legal caregiver for (name of individual) ____________________________, I give my permission for this individual to participate in this study.
Signed by: ____________________________ Date: ______________
APPENDIX B: LIFE SATISFACTION INDEX A

As discussed in Chapter 3, the Life Satisfaction Index A (LSIA) is a well-validated qualitative instrument for measuring an individual’s perception that he or she is aging successfully. Question 14 was of particular interest to this study as a positive response suggested a need for information.

LIFE SATISFACTION INDEX A

1. As I grow older, things seem better than I thought they would be
   - Agree  ☐ Disagree

2. I have gotten more breaks in life than most people I know
   - Agree  ☐ Disagree

3. This is the dreariest time of my life
   - Agree  ☐ Disagree

4. I am just as happy as when I was younger
   - Agree  ☐ Disagree

5. My life could be happier than it is now
   - Agree  ☐ Disagree

6. These are the best years of my life
   - Agree  ☐ Disagree

7. Most of the things I do are boring or monotonous
   - Agree  ☐ Disagree

8. I expect some interesting and pleasant things to happen to me in the future
   - Agree  ☐ Disagree

9. The things I do are as interesting to me as they ever were
   - Agree  ☐ Disagree

10. I feel old and somewhat tired
    - Agree  ☐ Disagree

11. As I look back on my life, I am fairly satisfied
    - Agree  ☐ Disagree

12. I would not change my past life even if I could
    - Agree  ☐ Disagree
13. Compared to other people my age I make a good appearance
   ☐ Agree ☐ Disagree

14. I have made plans for things I’ll be doing in a month or a year from now
   ☐ Agree ☐ Disagree

15. When I think back over my life, I didn’t get most of the important things I wanted
   ☐ Agree ☐ Disagree

16. Compared to other people, I get down in the dumps too often
   ☐ Agree ☐ Disagree

17. I’ve gotten pretty much what I expected out of life
   ☐ Agree ☐ Disagree

18. In spite of what some people say, the lot of the average man is getting worse, not better
   ☐ Agree ☐ Disagree
APPENDIX C: BACKGROUND INFORMATION SHEET

The ‘backgrounder’ was completed before asking the questions on the HIB Interview Guide (Appendix D). The first two questions are a simple screen for mental competency. If a participant could not remember two of the three items (i.e., the date, location, and the alias that he or she had chosen earlier), or forgot the question(s), the interview was terminated and all of the interview documents were destroyed. **Note:** The questions were not always asked in the order they appear here. Employing the semi-structured interview approach, I followed up on comments that related to future questions, thus maintaining a more conversational tone and information flow.

BACKGROUND INFORMATION

1. For the record, please say your name; give today’s date and the location of this interview.
2. In order to maintain confidentiality, all participants will only be identified by alias. What alias have you chosen?
3. What year were you born?
4. Where were you born?
5. Did you have any brothers and sisters? How many are still living? How would you characterize your relationship?
6. Do you have any distant family members or friends whom you consider part of your family?
7. Where did you go to school?
8. What is your marital status? [If deceased:] When did he or she pass away?
9. Do you have any children? Are they still living? How would you characterize your relationship?
10. What was your primary occupation before you retired?
11. When did you retire?
12. What social and professional groups did you belong to before you retired?
13. Which of these do you still belong to? Have you joined any new groups since you retired?
14. Have you joined any new social groups since you moved here?
15. How would you characterize your financial situation?
   ___Comfortable    ___Getting by     ___Not so good

16. Do you manage your own financial affairs or does someone else manage them for you? If so, who?

17. Do you have any hobbies or interests at present?

18. Did you once have hobbies or interests that you no longer pursue?

19. Do you own a pet?

20. Is your relationship with God important to you?

21. How many years have you lived in [city name]?

22. When did you move to the retirement community?

23. Why did you move to here?
   Prompt: Did you know anyone here at the retirement community when you moved in?

24. How was your health when you moved here?

25. Now that you have lived here for [time period], what do you like most about living here? What could be improved?
   Prompt: Can you give me specific examples of what you like or would like to see changed?

26. Have you had any health issues in the last couple of years?
   Prompt: You mentioned several health problems earlier: [list them here]. Are there any others you can think of? [Follow up on those that could impact HIB]
APPENDIX D: HIB INTERVIEW GUIDE

This was the heart of the interview. I always had to take special care to be certain the participant understood what I meant by ‘information’. There was an almost universal tendency among the participants to limit the classification in their minds to purposefully sought information, especially ‘important’ things like the day’s news and formal documents.

INTERVIEW GUIDE

The purpose of this study is to examine the role information for everyday life plays in the successful aging of people your age. By “information,” I mean anything that you feel you need to know, or just happen to learn, that you believe to be meaningful or useful to you.

1. What have you needed to know about your daily life that was not specifically related to [site name]? In other words, not about specific [site name] services or programs. Have you been concerned about something? Have you needed to clarify something? Or have you just been interested in something that you wanted to know more about?

   Prompts: health of yourself or someone else, finances and/or legal issues, hobbies or special interests, family matters, medications (Gauge the level at which questioning and seeking).

   As each concern is mentioned ask how they found that information if the respondent does not offer it. Prompts: Anyone or anything at [site name]? Family or personal networks outside [site name]? TV, radio, newspapers, magazines, or books?

2. We all just happen across information from time to time—something we aren’t looking for but, once we learn it, we know it’s somehow meaningful or useful. It might be from talking to friends or watching TV, for example. Can you think of anything you’ve learned this way that, again, that was not specifically related to [site name]?
Prompts: “Just think about those topics we’ve talked about already . . .”

As each piece of information is mentioned, ask how they found that information if the respondent does not offer it. Prompts: Anyone or anything at [site name]? Family or personal networks outside [site name]? TV, radio, newspapers, magazines, or books?

3. What have you needed to know about your daily life that was specifically related to [site name]? Have you been concerned about something? Have you needed to clarify something? Or have you just been interested in something that you wanted to know more about?

Prompts: daily and/or special activities, exercise and fitness, computer training, writing life story, health and/or activities of other staff or residents, management of the organization, committees or projects you serve on?

4. We all just happen across information from time to time—something we aren’t looking for but, once we learn it, we know it’s somehow meaningful or useful. It might be from talking to friends or watching TV, for example. Can you think of anything you’ve learned this way that was specifically related to [site name]?

Prompts: “Just think about those topics we’ve talked about already . . .”

5. Do you ever share information with other people about things outside [site name]?

Prompts: “Just think about those topics we’ve talked about already . . .”

6. Do you ever share information with other people about things going on inside [site name]?

Prompts: “Just think about those topics we’ve talked about already . . .”
Chapter 5 presented the case histories of Starr and Cherrie, two participants who were members of the Fourth Age. For purposes of contrast, this transcript records the interview with Anne, one of the Third Age outliers included in the present study. Anne was intentionally selected to see how her human information behavior (HIB) differed from participants who were members of the Fourth Age. Anne was also chosen because she was an avid e-mail user who used the computers in The Midlands’ computer center and checked her e-mail at least once every day. Her almost maniacal need to stay busy (“I am busy….And I’m going to be as long as I can!”) may have been a reaction to the death of her spouse six months earlier. As always, the names of real people, organizations, and places have been changed to help assure the participant’s anonymity.

ANNE’S TRANSCRIPT

Interview Date: September 5, 2005
Legend: I = Interviewer; A = Anne

Part 1: Life Satisfaction Index A (LSIA)

Anne had a perfect score: 18 out of 18 questions

I: The interview is in three parts. In the first part, I’m going to read you 18 statements and I’d like you to say whether you agree or disagree.
A: Okay.
I: “As I grow older, things seem better than I thought they would be”.
A: Agree.
I: “I have gotten more breaks in life than most people I know”.
A: Agree.
I: “This is the dreariest time of my life”.
A: Disagree.
I: “I am just as happy as when I was younger”.
A: Agree.
I: “My life could be happier than it is now”.
A: Disagree.
I: “These are the best years of my life”.
A: Agree.
I: “Most of the things I do are boring or monotonous”.
A: Disagree.
I: “I expect some interesting and pleasant things to happen to me in the future”.
A: Agree.
I: “The things I do are as interesting to me as they ever were”.
A: Agree.
I: “I feel old and somewhat tired”
A: Disagree.
I: “As I look back on my life, I am fairly satisfied”.
A: Agree.
I: “I would not change my past life even if I could”.
A: Agree.
I: “Compared to other people my age I make a good appearance”.
A: Agree.
I: I have made plans for things I’ll be doing in a month or a year from now.
A: Agree.
I: “When I think back over my life, I didn’t get most of the important things I wanted”.
A: Disagree.
I: “Compared to other people, I get down in the dumps too often”.
A: Disagree.
I: “I’ve gotten pretty much what I expected out of life”.
A: Agree.
I: “In spite of what some people say, the lot of the average person is getting worse, not better”.
A: Disagree.
Part 2: Background information

I: For the record, would you please give your name, today’s date, and where this interview is taking place.
A: Now this is my real name?
I: Your alias.
A: (Nervously impatient) Okay, okay, okay. Anne. And today’s date?
I: Um-hmm.
A: October 5th, 2005.
I: (Prompting) And the location …?
A: [Correctly gives address of The Midlands.]
I: And what alias have you chosen?
A: Now, now I give this right? (Interviewer nods) ‘Anne’.
I: And the year you were born?
A: 1930.
I: And where were you born?
A: Uh, uh, rural Republic County. (Pause) Kansas.
I: Where did you go to school, starting with grade school and—
A: (Jumping in) Okay, okay …
I: And going up through the highest …?
A: I graduated from Concordia High School, and graduated from [name omitted] Business College.
I: Okay. And your degree …?
A: Well, no, no, business, business college. (Very softly) Graduated from Acme Business College.
I: Do you have any brothers or sisters?
A: I have one sister.
I: And is she still living?
A: Yes.
I: And where does she live?
A: [Out-of-state location omitted.]
I: Are you close?
A: Yes. That’s who the e-mails come from.
I: That was going to be my next question. How do you stay in touch?
A: (With growing vocal animation) Yes. With e-mail. And then, uh, also I just got some, uh, some pictures and a letter and things like that. Yes, we’re close.

I: Telephone, too? Or mostly the Internet?

A: Sometimes. Uh, if, if one of the others of us is in a hurry, the telephone.

I: And what is your marital status?

A: (Brief pause) Widowed.

I: (Gently after a pause) And how long ago did your spouse pass away?

A: (All business again) April 14th, 2005.

I: Do you have any children?

A: (Very softly, almost inaudible) No.

I: Do you have any other close friends and family members with whom you stay in touch?

A: Well, yes, um, Sunday, people in Sunday School class, sorority, BPW, DAR, and DUV—I’ve got a lot of friends. [She explains these acronyms further on in the transcript.]

I: What was your job or profession before—?

A: (Interrupting) I was a secretary.

I: And when did you retire?

A: Well, my husband took early retirement at the end of January, 1976 so we could travel. And so, he retired at the end of January, 1976 and so I retired the next Wednesday of, uh, the first Wednesday in February because I trained two girls before I quit.

I: Ok. Where were you—?

A: Ok. (Rote) For 22 years, secretary of [name omitted] Supply Company which was wholesale plumbing, heating, air-conditioning, and hardware. And, uh, then when they sold out I had eaten lunch with the president and vice-president of [name omitted] Iron Foundry for 20 years. So when they [the supply company] sold out, Edgar Rice, who was president of the Iron Foundry, asked me to be his secretary. So, I was his secretary for four-and-a- half years until my husband took early retirement so we could travel.

I: What social and professional groups did you belong to before you retired? You’ve mentioned several already.
A: Ok, before, yes, yes. (Ticking them off on her fingers) First United Methodist Church. Business and Professional Women [BPW]. [The local] Chapter of Alpha Iota Sorority. (Pause). I guess that was it before I retired.

I: And do you still belong to any of these?

A: All of them.

I: Did you join any new groups after you retired?

A: Yes. After he retired, I joined Midwest Historical Genealogical Society, which then I found out I was eligible for Daughters of Union Veterans of the Civil War, 1861-1865 [DUV], and then I found out that I was eligible for Daughters of the American Revolution [DAR] and, uh, let’s see, was there anything else? [Pause] I can’t think of anything else.

I: What about since you’ve moved here? Have you joined any of the social groups or committees here at The Midlands?

A: Yes, uh, I’ve been on the Ambassadors’ Club. I play bingo and do stretch band exercises and work out, and yoga and work out, and swim. Let’s see. (Short pause) I go to Senior Wednesday—I do everything that I can, that I have time to and can. I go to the once-a-month social hour when they have it and the events they have I go to when I can.

I: And the Resident Association meetings?

A: Oh, yes. I always go to that. That’s when you learn what’s going on.

I: How would you define your financial situation? Comfortable? Getting by? Or not as good as you would like?

A: Comfortable.

I: Um, favorite hobbies or interests? You mentioned genealogy.

A: Yes, well I do that when I have time and, uh, we square danced as long as my husband was able. And I still like to travel whenever I can. (Pause) Let’s see. (Pause) Of course, I enjoy my clubs. And I like to play bingo and—(long pause).

I: (Prompting) —the library?

A: Uh, no, uh, I like to go to the Senior Wednesdays [special events organizations around the area hosted for seniors one Wednesday a month]. I like the library (laughs). I just don’t have the time.

I: Any others?
A: That's what I’m trying to think. Let’s see. Let’s see. Check my e-mail. (laughs)
(Long pause) And I enjoy eating with the different people. I’ve already said I like to travel. Let’s see. (Pause) And when they have programs here, I like to go to them.
I: Besides square dancing do you have any other hobbies or interests that you no longer pursue?
A: No. That’s probably, that’s probably the only one that I can think of.
I: Do you own a pet?
A: No.
I: Do you manage your own finances or—
A: (Interrupting) Yes.
I: —do you have someone else do it?
A: No, I do.
I: Do you ever use the computer, Internet, or e-mail?
A: E-mail.
I: And, uh, how long have you been using a computer?
A: I think, uh, let’s see, probably two or three years. Joan in the computer center here taught me. Let’s see, okay! The entertainment book, you had to do it online so she helped me with it and that’s been two or three years ago. That’s all I do, just get my e-mail.
I: Do you stay in touch with anyone besides your sister on the e-mail?
A: Well, uh, like today there was one from sorority because the husband of one of the gals in the sorority is in the hospital. That was in there today. So, sometimes. You know. Oh, I also belong to an investment club. Once in a while I get one from the investment club. So, it’s mostly my sister, but once in a while I’ll get one from somebody else.
I: Which one of you, your or your sister, started using the Internet?
A: She did. She got a computer and on the Internet and she thought I was living in the dark ages until, until, and so I, I get a lot from her. It’s different when you own your own computer, but here, I try to keep it down, but she likes to send, send things.
I: In the past several years, have you experienced any health losses? Vision?
A: No.
I: Hearing?
A: No.
I: Strength?
I: Functional capacity?
A: (Shakes head no.)
I: Illness?
A: (Shakes head no.)
I: Cognition?
A: (Shakes head no.)
I: Obviously not cognition. (Both laugh then Interviewer moves to next question) How important is god and your church in your life?
A: Very important.
I: (Prompting for further response) Is this something recent or have you felt this way most of your life?
A: I’ve, I’ve gone to church all of my life. When I was, uh, uh, well of course we went to Bible School when we were kids and, uh, our mother took us to the Methodist Church. Then when I was in high school in Concordia, I joined the Methodist Church there. When I moved here to [city name omitted], I went to one Methodist church and then in ‘48 I started going to First Methodist Church. My husband I met there in the Young Adults in ’48. And then, uh, in ’51 we were married and went into the 50-50 Sunday School Class and we’re still members there.
I: And do you have lots of friends there?
A: Yes; Sunday School and church. Yes.
I: Now, would you define those people as close friends or acquaintances?
A: Yes. Close friends.
I: Have you been experiencing any loss in friends through death recently?
A: Well, sure. That’s a continuing thing. But life goes on.
I: So you’ve made new friends?
A: Oh, yes, I think so.
I: When did you move to [name of city]?
A: In the middle of August in 1947.
I: And how long ago did you move here [to The Midlands]?
I: What made you decide to move here?
A: Well, uh, we, from, from the time it was opened my husband wanted to come. We went on, on the bus and watched it being built. We both knew that we would we
come when I got ready. At that time, I told them that I wasn’t old enough but they
(told me there wasn’t any age limit at that time. But, I wanted to wait until I could
take my, my full Social Security and my insurance annuity. So then we came to
[The Midlands] and we knew the people who came when it opened and we had
friends who invited us out to eat and, uh, then, uh, when we came to the tenth
anniversary [party for The Midlands in 1997] and, uh, so then I decided if we were,
were accepted—and we had an apartment before it opened and we didn’t come in—
and I decided, well, if we were accepted again and, and the Life Care² was the
reason I came. I thought if we were accepted again and both had Life Care we
would come. Well, we were accepted again and both had Life Care so we came.

I: Now that you have been here a couple of years, what things do you like best about
living here?

A: Well, I guess the Life Care. But, uh, everybody’s real nice, real friendly.

I: By “everybody” you mean …?

A: Most everybody: the employees and the residents. It’s really a good place to live. I’d
recommend it to anybody.

I: And you’ve made friends among the residents here?

A: Oh, yes.

I: And what about among the employees?

A: Oh, sure, I think so.

I: If there was one thing you could change, what would it be?

A: About here? (Interviewer nods affirmatively; long pause while she thinks) Well,
there’s only two that I can think of (small laugh). When we first came, uh, they had,
uh, a Breakfast Club and I liked that—I didn’t like to get up for it—but I liked it
because they had speakers. And then when we came they had the birthday party
once a month, for the month, and I liked that. I think that’s the only two things that
we had that we don’t have now that I liked.

² Before there was long-term care insurance, some non-profit retirement communities offered Life Care. By making a lump sum payment for Life Care when they moved in, residents at The Midlands were assured priority access to the retirement community’s nursing center and that their monthly fee for living in the nursing center would be the same as what they had been paying for their apartments (excluding medications and other personal expenses). In order to qualify for Life Care, a resident coming into independent living had to have a physician’s assessment that they were in good health and exhibited no health issues that might require them to move to the nursing center in the near future.
Part 3: Interview guide

I: Now, as I told you, the purpose of this study is to look at the role that everyday life information plays in successful aging. By ‘everyday life information’ I mean pretty much everything that is not included in professional information. When you were still working you were always looking for information about your job and such. What we’re talking here about information you need in your everyday life. By “information,” I mean anything that you feel you need to know about, or just happen to learn about, that you believe is meaningful or useful to you—

A: (Cutting in, voice tense) If there’s anything I need to know, I ask and find out.

I: Okay. Well, I ran into a bit of a problem in some of my early interviews that the person I was interviewing and I had different definitions about what information was and that made for some interesting confusion until we talked it out. So, I guess when I say ‘everyday information,’ what does that mean to you?

A: (Still tense) Well, if there’s something I don’t understand, I, I ask whoever is in that department or whoever knows. I mean, um, I mean, I mean, I’ve always felt comfortable here and I’ve always told her [the current chief executive officer (CEO)] what I thought. And Mr. Higgins [the previous CEO], we knew him before she came in and, you know, we always liked him and, uh, like the, you know, the present CEO’s very nice. I mean, I mean I think this is good, good—(voice peters out).

I: (Trying another tack) We-e-e-e-l-l, we all have routines; we all like to keep our world model up to date. What’s going on in New Orleans? What’s for lunch here? So, we all have routines, things that we do every day, to check on the world, to get information. For example, I get up in the morning and I have a cup of coffee and I

---

3 Hurricane Katrina struck New Orleans shortly before this interview took place.
read the paper to learn what’s going on. Could you walk me through your day and think about the steps you go through gathering information, what you do to find out what’s going on?

A: Ok. Usually I read the paper at night. I mean, sometimes, sometimes I look at it in, in the morning, and it’s, but, then, uh, I rarely read it. And I watch—and that’s one of the reasons I like to eat lunch at noon—is that I like to watch the 5 o’clock news on Channel 10 and the 5:30, and the 6 o’clock news on Channel 12, and the 10 o’clock news on Channel 3. ‘Cuz, you know, that way I feel like I—(voice peters out).

I: What about getting information around here as you go through the day?

A: Well, uh, anything that comes out, I read.

I: What about, uh, you mentioned exercise class?

A: (Interrupting) Yeah, right!

I: (After a long pause) Again, think of your day and—

A: (Interrupting) Yeah, sure!

I: —and where you go throughout the day and where you collect information. So, you’ve gotten up, you may have skimmed the paper?

A: I usually eat at noon; I do if I’m here. And that’s right. Then 2 o’clock is exercise class and I work out and like, when the nutritionist comes, I always go to that and, uh, on Thursday is yoga and I go to that and work out. Then on Friday, which I really like, I go to swimming and then I get my hair done. So, I mean, I, uh, I, I, I, (laughs) I really think things work.

I: Ok. So do you ever pick up information in the beauty shop, for example?

A: Oh, just, yeah, uh, yeah, general information.

I: What about in the exercise classes? Do you ever visit?

A: Yeah, sure.
When you eat, for example, do you eat with the same people generally?

Uh, no, uh, well, when it works, uh, Wilma and Della [two high-functioning residents] and I eat together, which leaves room for one [at the table]. They don’t come all of the time and, of course, I’m not there all of the time. And so, we always have room for one or two or something like that.

And do you all invite these other people to join you, or does the hostess seat them or—?

Sure, like this noon, Della called that she was going out to eat with her sister and some friends, so I had a reservation for Wilma and me and so it said ‘two’ and then the hostess brought Tim and, uh, so, no, it’s always open. In fact, I even told the hostess when she asked if we had room for one that we had room for two but she only brought one. So, it’s very open.

So, what kinds of things do you visit about at lunchtime?

Well, uh, let’s see, oh today, when Tim got ready to leave his scooter didn’t back up. So they decided the battery was run down, so they plugged it in. And today, like we talked about, let’s see, Wilma taught at [a local high school] for a long time and he [Tim] went to [another local high school], so she was gone before he came so we talk about, you know, general things.

Do you ever talk about health issues?

Uh, sometimes.

What about coffee hour. Do you ever—?

I don’t go to that because I don’t have time (small laugh).

And what about weekly or monthly activities? You mentioned Resident Association meeting?
A: Yeah. You mean here? (Interviewer nods). Well than about once a month they have ‘Meet Your New Neighbors’ and I go to that if I can. Let’s see (pause). When they have programs, I go to those.

I: Happy hour?

A: No, I don’t do happy hour.

I: What about meetings outside of The Midlands?

A: Okay! Uh, sorority’s twice a month, uh, during the winter and then, let’s see November, December. DUV is once a month and DAR is once a month, it’s during the winter; fall, winter, and spring. Let’s see, what else? (Pause) Oh, I go to the Scandinavian Society which I enjoy and that’s once a month.

I: You’re Scandinavian?

A: My, my, both my dad’s parents came from Sweden. And, so, I always enjoy that.

I: Have you belonged to that for a long time?

A: Uh, you see, well it was after, uh, after we retired because the scout in, uh, MGS—Midwestern Genealogical Society—always, always asked me to join but we were square dancing on Friday night and so we didn’t. But after we weren’t square dancing on Friday night we joined, so we’ve belonged for a long time. And of course BPW is on Tuesday night and like, like this month, UMW is on Wednesday night, it’s usually during the day, but it’s Wednesday night this month. Thursday (pause). Thursday night is Sunday School and Steak Fry and Friday night is Scandinavian Society. So I, I am busy.

I: Sounds like it.

A: And I’m going to be as long as I can!

I: That’s your philosophy in life?

A: That’s right!
I: Can you think about something you’ve need to know in your daily life that wasn’t related to The Midlands? In other words, it was not about services or programs. Something that you’ve been concerned about, or needed to clarify, or been interested in? (Long pause while Anne thinks) It doesn’t necessarily have to be a big thing.

A: I, I, I mean anything I want to know I always find out.

I: And how do you do that?

A: Well, whoever knows or whatever.

I: So, for example, you mentioned the different groups and needing to know when they meet. Where did you go to find that information? What connection?

A: Well, people invited me to join.

I: No, I mean in terms of the monthly meetings. You mentioned one meeting has been moved, for example.

A: Oh! Okay. Well, uh, the, uh, the, uh, the, uh, the Sunday School Steak Fry.

I: Uh-huh.

A: Next Thursday night, but it was originally on Friday night and I was going to choose between whether I wanted to go to it or the Scandinavian Society. And it, uh, things work out. They changed the Sunday School from Friday to Thursday night so I could do both. So, I’m going to do all I can.

I: But, how did you find out they had changed it?

A: Well, Sunday School class announced it. See, they had given us a date on Friday night so I knew I was going to have a conflict. But then they changed it. Things work out.

I: We all come across information from time to time that we aren’t looking for. But, once we learn about it, we say, “That’s useful.” Sometimes, it’s for ourselves and sometimes we run across something that we know someone else is interested in and
we happen to run across it and pass it on. Have you ever had that experience where you have stumbled across some information recently that you weren’t looking for?

A: (Long pause). Right off hand, I can’t think of anything.

I: One example that another person gave me was that they had a friend who had Macular Degeneration. So, when they ran across an article on it, they made them a copy.

A: Oh, that was nice of them.

I: Anything of that nature?

A: No, nothing like that. It’s usually verbal, you know.

I: (After a very long pause for response). Besides the news, do you watch anything else on television?

A: Oh, I, uh, I like, uh, oh—and that’s another thing: I like to go to the movies on Sundays when they have them here. But they didn’t last Sunday. I also like to watch the 5 o’clock and 5:30 news and six o’clock is 60 Minutes on Sunday which goes to seven and then the 10 o’clock news. But. Oh, like, uh, oh, sometimes like Miss America, something, something special. But, oh, usually news is all I watch.

I: Do you ever learn something, pick up some information you weren’t looking for, when you are watching television?

A: Oh, sure, I like Public Television, too.

I: Um, can you think of anything in your daily life, specifically related to The Midlands, that you’ve needed to know about recently, or that you’ve been concerned about, or that you have wanted to clarify, or you were just been interested in?

A: Oh, anything that I want to know, I just ask. So, I really don’t….

I: Who do you ask?

A: Who? It would depend on who is in charge of it.
I: Can you give me an example? (Long pause) Someone you’ve asked about something recently?

A: I really can’t think about anything.

I: What about any special activities?

A: Well as soon as Debbie [the activity director] puts out the activities calendar I look at it to see if there’s something I want to do.

I: What about exercise and fitness?

A: Well, now, see, I, uh, I, I’ve been doing that for years. When we first came, uh, Helga [the fitness club manager] wanted me to start and, um, I was still at the house, so as long as we were living at our old house, I didn’t get started. But I’ve been doing it for years.

I: So, do you talk to Helga when you have questions?

A: Helga, or of course Phyllis [her assistant] is gone now, and, uh, let’s see, Dawn [another Fitness Club assistant], and, uh, no, I work with them all.

I: Any questions about computers or the Internet.

A: If I, uh, uh, Angel [the computer center manager], takes care of me.

I: What about anything related to your health? Who do you talk to if you have health questions?

A: If I have any questions, I call, I call the doctor’s nurse and talk to her. And she’ll, she’ll, either they’ll either make an appointment or they’ll, they’re on top of something. (laughs) I’m not bashful.

I: What about the health and activities of other residents or staff? Their health and what they’re doing.

A: I’m not sure I understand.

I: Is so-and-so in the hospital? Or is so-and-so not feeling well? That sort of thing.
A: You really don’t hear too much about, about the staff. They just, they just aren’t there.

I: How so?

A: Well, you know, well, like, okay, I know that Rosa [a member of the wait staff], I know she goes to Mexico and picks up her kids when she’s not here and, uh, but, uh, more likely know when somebody is going to have a baby, you know, and, you know, things like that. But, uh, you know, it’s, sometimes the staff’s here—I’m talking about the dining room. Now, the housekeeping staff, you know, we know who our housekeeper is. But, they have a big staff in the dining room.

I: Going back to that issue of stumbling across information, can you think of anytime that you have happened across information that you weren’t looking for that related to The Midlands?

A: Well, um, of course, well like when The Midlands had, had their ads on TV, I watched, I watched that. And, uh, when, uh, they had their, uh, let’s see, I, uh, I try to watch, watch out for it.

I: For example, you mentioned Rosa going to pick up her children. Now, how did you find out about that information?

A: Well, I think that I, I don’t know, I just knew it. I think, I think, of course, she has been here several years and I think the first year she told us. So, before school starts we just, when she’s not there, we just figure she’s gone to get her kids in Mexico.

I: Do you ever share information with other people about what’s going on outside of The Midlands?

A: Uh, what do you mean?

I: About the hurricane or …?

A: Oh, sure. We talked about that at Noon, whatever the current issue is.

I: Ok. Now, what about talking about what’s going on inside The Midlands?
A: Well, let’s see, I don’t think we said, I don’t think we said what was going on inside.

   I’m trying to think of Noon. I don’t think we did today. Now, sometimes, uh, somebody will say. “Well, I haven’t seen so-and-so lately” and, uh, but, I really can’t . . . Yeah, OH! Okay, today Mary said she was going to turn her form into Angel and I said I was going to, too. Just things like that.

I: Thank you. That’s all of my questions. Do you have any for me?

A: I hope it did you some good.

I: I believe it did. Thank you.
APPENDIX F: SAMPLE FIELD NOTES AND MEMOS

Note following Clever interview
This was a very frustrating interview. Compared to other participants from whom the interviewer gained a wealth of information, this interview was very shallow. An analogy would be the difference between a book and the Readers Digest condensed version. The information was simply not there. This can create a problem for an individual in a Skilled Nursing Facility, where the staff members are more apt to view that person as a patient, rather than as an individual due to the lack of information sharing which strengthens social bonding.

... 

Following Buster interview
Berlo’s model of communication suggests that a number of factors related to the human receiver (e.g., hearing, vision) impact the communications process. In a casual first encounter, Buster appeared to be a “normal,” albeit colorful, individual. However, once the interview began, it quickly became evident that Buster was demonstrating some mental confusion. He was also somewhat deaf, having given up wearing hearing aids after he lost the fifth pair. This may have added to the apparent confusion. He denied the seriousness of the hearing loss. He also became stressed and flatly denied having any cognitive problems.

... 

Buster—Two weeks later
I observed that his hearing and cognitive (?) problems, along with his ‘good ol’ boy’ persona, are inhibiting his making new friends at The Midlands. I observed the dining room hostess seated him with Gloria and Henry J. yesterday. Visiting with Gloria today, she noted that the hostess, Dee, sees to it that everybody takes turns eating with ‘those people’.
A moment of insight
Starr made a remark today that puts [information] in a whole new light. We were talking about staff members as sources of information and she said, “It doesn’t matter what the people say to me as much as how they say it”. How important are emotions as information? Note to self: Check the research that’s been written on the subject in LIS and gerontology.

…

Cloistering
I had lunch today with Nannah. I explained that I had noticed that residents become increasingly shut-in as their health decreases and that I needed a term to describe that. She said, “How about ‘cloistering’? It’s like we’re a bunch of nuns”.

…

Friends
Over coffee with some of the residents, I mentioned that it seemed like people had a lot of friends when they moved into The Midlands. The group got to counting up how many people they knew when they moved in and it turned into a sort of contest. The ‘winner’ knew 49 people here when she moved in—that’s about 36 percent of the independent living population.

…

Starr’s decline—After 1 year
It’s been about a year now and Starr’s eyes are failing her. Her 90th birthday resolution to teach herself to touch type by her 91st birthday has proven to be impossible. Instead she has gotten a HUGE flat screen computer monitor, which also connected to the tele-reader she now uses to read her mail. Still, she has had to hire her daughter to act as her proxy information seeker as she has trouble with small print.
Her bone cancer is still in remission. At the time she is not receiving any treatment for the condition beyond regular checkups. She’s philosophical about the issue. As it was beyond her control, she chose “just not to worry about it.” However, it apparently has had an impact on her physical exercise regimen. When I asked about her information-seeking behaviors, she volunteered that she no longer took part in the group exercise activities in The Midlands Fitness Center—a major social activity in years past. “These bones are too fragile,” she explained. She indicated she had discussed the matter with her physician and the Fitness Center staff and that she now walked the hallways instead.

... 

Starr’s 92nd birthday
Took her flowers for her birthday. It’s been another year and Starr had lost her most of her vision. She’s also experiencing hearing loss. She no longer plays the piano. She has turned the business over to her daughter completely. All of this has affected her information seeking behavior. Her bone cancer is no longer in remission and she is on chemotherapy and radiation. She hardly ever leaves the apartment now, for fear of being thought of as ‘one of those’ by Gloria and the others. She’s still positive, however. Starr’s behavior supports Chapman’s conclusion that a positive attitude is a major key to successful aging.

... 

The staff appears to have a considerably better relationship with, and serve as confidants and information sources for, the residents at The Midlands when compared to the staff at Chapman’s Garden Towers. A resident satisfaction survey conducted by an outside research firm supports this conclusion. The three things the residents liked best about The Midlands were (1) the employees, (2) the other residents, and (3) friends.

... 

While we are defining “successful aging” based on the resident’s subjective view, the impact of other forces—especially failing health—is going to have to be taken into consideration. This is particularly true with regard to the Internet. We see this in the
impact her failing vision has had on Starr’s use of e-mail. Cognitive problems can be even more debilitating, as witnessed by the following comments from an online Alzheimer’s support group to which I subscribe:

“I bought my wife a complete computer system when she was first diagnosed with Alzheimer’s hoping that using the computer would stimulate her cognitively. It was too late. She had already lost the ability to type. But I was able to teach her to play Solitaire and to this day she still plays, sometimes for more than an hour at a time. She was 77 when I bought her first computer.”
APPENDIX G: EXEMPLAR INTERVIEW VOICE SHEET

The following voice sheet was used in preparing Section 4.7, Computers and the Internet. Again, the quotations on the right are only the ‘best’ quotations. That is to say, I intentionally chose them because they well illustrate some aspect of the topic.

COMPUTERS AND THE INTERNET VOICE SHEET

<table>
<thead>
<tr>
<th>Topic</th>
<th>Voices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tailoring the communication tool to the recipient</td>
<td>I write letters to my sisters but mostly e-mail my children. They are very busy and on the go and I can get immediate answers from e-mails. The children are all very proficient with computers, the older group are not as comfortable with them (Jen, The Midlands).</td>
</tr>
<tr>
<td>Family pressure</td>
<td>[My sister], she got a computer and on the Internet and she thought I was living in the dark ages (Anne, The Midlands).</td>
</tr>
<tr>
<td></td>
<td>My daughter. She encouraged me to get on the Internet (Nannah, The Midlands).</td>
</tr>
<tr>
<td></td>
<td>My stepson got it for me for my birthday. He works for Hewlett-Packard and thought I needed one (Zelda, The Midlands).</td>
</tr>
<tr>
<td>Rationale for not learning to use a computer and/or the Internet</td>
<td>[People said] “If you had a computer, you could have done this, that or the other”. I said, “Well, if I went so many, many years without one, why do you think I need one now?” (Sonny, Plaza Towers).</td>
</tr>
<tr>
<td></td>
<td>[Use a computer?] Not any more. I used to. I didn’t want to haul that computer up here . . . Hell, I was damned near 60 years old when the Internet came along (Buster, The Midlands).</td>
</tr>
<tr>
<td>Effects of declining health on computer and/or Internet use</td>
<td>I still can get on the Internet, but it's getting a little bit on the far side of me. I haven't used e-mail for quite a while . . . I can’t do a computer hardly. It's getting a little beyond me (Marion, The Midlands). Because of my poor vision, e-mail bothers me. Recently, a distant relative tried to strike up a correspondence by e-mail. It was quite frustrating. I felt obligated to respond, but it was just too much work to type and all, for someone I don't know that well (Starr, The Midlands).</td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td>Use of proxy information seekers</td>
<td>[My husband], he doesn't have the Internet. So, I say “Come read this from Bill, or Susan or whatever. And I encourage him to reply right away (Nannah, The Midlands). The computer center prints out e-mails from my family who are in the Near East (Mildred, The Midlands).</td>
</tr>
<tr>
<td>Online shopping for the cloistered</td>
<td>I’ve shopped on the Internet and I’m going to do more on it because I can’t go very far nowadays (Gloria, The Midlands).</td>
</tr>
<tr>
<td>Online research</td>
<td>It’s easier to go and find it on the Internet, than it is to look in a book. (Henry J, The Midlands).</td>
</tr>
</tbody>
</table>
APPENDIX H: EXEMPLAR OBSERVATION SHEET

The following comments were drawn from my observations at the two field sites.

**OBSERVATIONS: THE TWO COMPUTER CENTERS**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both sites made computers and the Internet</td>
<td>The Midlands computer center was available to residents, their families and the employees. It was normally open from 8:00 a.m. To 5:00 p.m., Monday through Friday. After hours and on the weekend, users could ask security to open it anytime of the day or night. By appointment, staff would also come in outside of business hours. The Plaza Towers computer room was available to Plaza Tower residents as well as members of the senior center who lived in the surrounding neighborhood. It was accessible during senior center hours, 8:00 a.m. to 5:00 p.m., Monday through Friday. The room was normally kept locked; staff opened the room for classes and upon request.</td>
</tr>
<tr>
<td>Staffing</td>
<td>The Midlands Center employed two part-time staff members under the supervision of the Director of Resource Development. Plaza Towers had no staff dedicated to its computer room. Courses were available only when volunteers from the outside community were available to teach them. This led to rather hit-or-miss schedule and a lack of program continuity.</td>
</tr>
<tr>
<td>Equipment</td>
<td>Both programs had four computers available for use as well as printers. However there were differences. The computer room at Plaza Towers had low-end computers with</td>
</tr>
</tbody>
</table>
standard keyboards. The computers were networked with one consumer-grade color printer. For the first two weeks of my photography class, the printer was out of service due to a technical difficulty. After that was fixed, it was another two weeks before the corporate headquarters provided ink cartridges.

The four computers in The Midlands computer center each had its own printer. Three of the computers had 17-inch, flat-screen monitors. One computer featured a large, 48-inch flat-screen monitor that was used for presentations and video calling. All of the computer center’s computers had large-print keyboards. The Midlands computer center also had a commercial-grade color inkjet printer and a binding machine for publishing residents' life stories. The staff also had two iMacs with Adobe Design™ software for laying out the books.

<table>
<thead>
<tr>
<th>Programs</th>
<th>Programs at Plaza Towers during the study included computer basics, as well as a course on digital photography taught by the author of this study.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Midlands Center offered a variety of programs:</td>
<td></td>
</tr>
<tr>
<td>• <strong>One-on-one computer instruction.</strong> Given the wide-range of residents’ abilities, center staff had found that individual instruction was apt to be more successful long-term than group instruction.</td>
<td></td>
</tr>
<tr>
<td>• <strong>E-mail*grams.</strong> Staff acted as proxy information seekers, setting up e-mail addresses for residents who could not, or would not, use computers. They monitored some 40 mailboxes daily, printing out the e-mails and delivering them to the residents. Residents were encouraged to type their own replies with assistance. Dictation was available for the visually impaired.</td>
<td></td>
</tr>
</tbody>
</table>
- **Greeting cards and invitations.** The center offered free design services. Residents paid for the paper and printing. The center would also print their mailing labels.

- **Life Story Program.** The program provided free editorial and design services to help residents write, publish, and promote their life stories and other writings, both in print and on the Internet. Started in 1996, by 2008 it had published over 50 life histories, genealogies, and books of wisdom. In 2008, the center helped co-produce a local public television documentary on World War II that showcased interviews with eight residents. For this, the program won its second of two national award from the American Association of Homes and Services for the Aging (AAHSA).

- **Skype weddings.** Some residents were physically unable to travel to far-off weddings. Center staff would arrange for a live Skype broadcast from the church, decorate the center as a chapel, host the event and provide refreshments.

- **Technical support.** Staff members were available by appointment to service resident's personal computers. The also went with residents to pick out new computers, phones, cameras, et cetera if so requested.

<table>
<thead>
<tr>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Both sites relied on operational monies and donations for their funding. The life story program, the computer equipment, and even construction of the computer center itself, were paid for with donations from appreciative residents. Consequently, there were no fees for the computer center's services, save for printing.</td>
</tr>
</tbody>
</table>
### APPENDIX I: PARTICIPANT DEMOGRAPHICS

#### LEGEND

<table>
<thead>
<tr>
<th><strong>Alias</strong></th>
<th>Participants’ pseudonyms</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Site</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PT</td>
<td>Plaza Towers</td>
</tr>
<tr>
<td>TM</td>
<td>The Midlands</td>
</tr>
<tr>
<td>TMN</td>
<td>The Midlands Nursing Home</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Age</strong></th>
<th>Refers to position in Four Ages theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yrs</td>
<td>Chronological Age; traditional measurement of ‘old’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Drive</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Physically and mentally capable of driving a vehicle anywhere</td>
</tr>
<tr>
<td>Day</td>
<td>Drives only in daytime and only to familiar destinations</td>
</tr>
<tr>
<td>No</td>
<td>No longer drives</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Marital status</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>Widowed or divorced;</td>
</tr>
<tr>
<td>Married</td>
<td>Spouse still living</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Education</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jr. Hi</td>
<td>Junior High School (grades 7-9)</td>
</tr>
<tr>
<td>Hi School</td>
<td>High School (grades 10-12)</td>
</tr>
<tr>
<td>Associate</td>
<td>2-year college certificate</td>
</tr>
<tr>
<td>Bachelor</td>
<td>4-year college diploma</td>
</tr>
<tr>
<td>Master</td>
<td>6-year degree</td>
</tr>
<tr>
<td>PhD, MD</td>
<td>Doctorate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Financial</strong></th>
<th>3 choices: ‘Comfortable’, ‘Getting by’ and ‘Not so good’</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>‘Net (Computer/Internet)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Uses or once used computer/Internet</td>
</tr>
<tr>
<td>No</td>
<td>Has never used</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>LSIA (Life Satisfaction Index A)</strong></th>
<th>18 is the highest score possible</th>
</tr>
</thead>
</table>

<p>| * / ** | Identifies married couples who both participated in the study |</p>
<table>
<thead>
<tr>
<th>Alias</th>
<th>Sex</th>
<th>Site</th>
<th>Age</th>
<th>Yrs.</th>
<th>Drive</th>
<th>Marital</th>
<th>Education</th>
<th>Finances</th>
<th>‘Net</th>
<th>LSIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfa</td>
<td>F</td>
<td>PT</td>
<td>4th</td>
<td>94</td>
<td>No</td>
<td>Single</td>
<td>Jr. Hi</td>
<td>Comfortable</td>
<td>No</td>
<td>15/18</td>
</tr>
<tr>
<td>Anne</td>
<td>F</td>
<td>TM</td>
<td>3rd</td>
<td>75</td>
<td>Yes</td>
<td>Single</td>
<td>Hi School</td>
<td>Comfortable</td>
<td>Yes</td>
<td>18/18</td>
</tr>
<tr>
<td>Buster</td>
<td>M</td>
<td>TM</td>
<td>4th</td>
<td>84</td>
<td>No</td>
<td>Single</td>
<td>Master</td>
<td>Comfortable</td>
<td>Yes</td>
<td>10/18</td>
</tr>
<tr>
<td>Charlie</td>
<td>M</td>
<td>PT</td>
<td>Cusp</td>
<td>79</td>
<td>Day</td>
<td>Single</td>
<td>Bachelor</td>
<td>Getting by</td>
<td>Yes</td>
<td>14/18</td>
</tr>
<tr>
<td>Cherrie</td>
<td>F</td>
<td>PT</td>
<td>4th</td>
<td>81</td>
<td>No</td>
<td>Single</td>
<td>Ph.D.</td>
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**APPENDIX J: PARTICIPANT LOSSES**

Based on observation and information provided during the interviews, participants were evaluated on five areas of physical losses, as well as their continuing ability to drive a vehicle. The findings supported the idea of a continuum of growing losses. Those in the Third Age had no losses and still drove. Those on the cusp of the Fourth Age had one or two losses and only drove occasionally and only during the daytime to familiar locations. Those in the Fourth Age had three or more losses and no longer drove.

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APPENDIX K: CHOOSING A RETIREMENT COMMUNITY

The following table captures the primary reasons the participants moved to a retirement community as well as where they lived prior to moving. This data was used in writing Section 4.4.1.

Legend: PT = Plaza Towers; TM = The Midlands

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