

Chapter 7

Health Information Literacy and the Experience of 65 to 79 Year Old Australians

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ABSTRACT

Information Literacy (IL) is presented here from a relational perspective, as people's experience of using information to learn in a particular context. A detailed practical example of such a context is provided, in the Health Information Literacy (HIL) experience of 65 to 79 year old Australians. A phenomenographic investigation found five qualitatively distinct ways of experiencing HIL: Absorbing (intuitive reception), Targeting (a planned process), Journeying (a personal quest), Liberating (equipping for independence), and Collaborating (interacting in community). These five ways of experiencing indicated expanding awareness of context (degree of orientation towards their environment), source (breadth of esteemed information), beneficiary (the scope of people who gain), and agency (amount of activity) across HIL core aspects of information, learning, and health. These results illustrate the potential contribution of relational IL to information science.

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INTRODUCTION

Information literacy (IL) has rapidly become an object of interest within library and information research, with the majority of this enquiry conducted in educational (Bruce, 1997) and workplace settings (Lloyd, 2005). Less research has been conducted exploring IL in the context of everyday life. However Todd (2000, p. 30) commented that "information makes a difference to everyday lives of people and that having the knowledge and skills to connect with and interact with this information can enable people to solve real world problems and address life concerns" but "information literacy literature to date gives little attention to this". Recently, however, Partridge, Tilley and Bruce (2008) noted that a "community information literacy" research territory was starting to emerge and that a "collective consciousness" (Bruce, 2000) for this new research domain was slowly forming. Indeed, over the last several years studies have begun to explore IL within different groups (e.g. migrants – Lloyd, Kennan, Thompson, & Qayyum, 2013) and in a range of contexts (e.g. religion – Gunton, Bruce, & Stoodley, 2012). These studies have adopted different theoretical lenses as well as different research methods. This chapter builds upon the growing collective consciousness of community IL research. It presents how Australians aged 65 to 79 experience IL in a health context.

The chapter first provides a background to the study, introducing the field of consumer health information and how this study is situated with respect to that field. Next the chapter outlines the current research, providing details of the methodological approach, the participants, data collection, analysis and findings. The chapter concludes with reflections on the next steps for both the research project and the broader community IL research domain.

BACKGROUND

In 2003 the Australian Prime Minister's Science, Engineering and Innovation Council (PMSEIC) proposed three generations of ageing Australians: the middle age (aged 45 to 64), the younger old (aged 65 to 79) and the older old (80 years and over) (PMSEIC, 2003). This current paper reports on the findings of a study into the experience of the younger old, concerning their use of information to learn about health, also known as health information literacy (HIL). It is part of a larger project embracing different generations of ageing Australians. It extends work previously presented in Yates, Partridge and Bruce (2009), and Yates et al. (2012).

The term HIL was first introduced into professional discourse in 2003 by the Medical Library Association (MLA) Task Force on Health Information Literacy. The MLA provided a working definition of HIL: "the set of abilities needed to recognize a health information need; identify likely information sources and use them to retrieve relevant information; assess the quality of the information and its applicability to a specific situation; and analyse, understand, and use the information to make good health decisions" (MLA, 2003). HIL has been used in both popular and scholarly literature (Burnham & Peterson, 2005; Cullen, 2005), however HIL presently has no developed theoretical or conceptual base. Developing such a base offers benefits to both professionals and individuals in various ways, including guiding how health information is designed and presented for optimum learning, and providing a suite of approaches to choose from when learning about health.

Consumer Health Information (CHI) research emanates from multiple disciplines including medicine, public health, communication science, and library and information science. It has focused on three areas of enquiry: health information behaviour, health literacy and health communica-

tion. All of these attend to aspects of the use of information in everyday life.

- **Health Information Behaviour (HIB)** refers to the “the activities a person may engage in when identifying his or her need for...[health]...information in any way, and using... that information” (Wilson, 1999, p. 1). HIB research is grounded in information behaviour theory and focuses on: where people seek information; the mechanics of how they seek it; the psychological and social characteristics of those who seek, or fail to seek it. From the growing body of HIB research, we have a clearer picture of the most common places for health information seeking by community members and how these preferences vary across specific socio-demographic or health related groups within the community (Christiansen, Durrance, Fisher, Naumer, & Stromski, 2005; Cotten & Gupta, 2004; Warner & Procaccino, 2004).
- **Health Literacy (HL)** refers to “the ability to read, understand, and act on health information” (Pfizer, 2012). HL research, grounded in a literacy framework, focuses on the relationship between a person’s literacy, and the quality of health care they receive and their overall health status. From this research we have a clearer picture of the relationship between literacy and health status by community members and how this relationship varies across specific health related groups in the community (Kickbusch, 2001; Parjkh, Parker, Nurss, Baker, & Williams, 1996).
- **Health Communication (HC)** “encompasses the study and use of communication strategies to inform and influence individual and community decisions that enhance health” (Boston University, n.d.). HC research is grounded in communication theories and focuses on: where people

seek information; the design and delivery of information resources; the communication process between health professionals and patients. From this research we get a clearer picture of what type of health information resources people use, how they use them, as well as the issues relating to effective health communication strategies in community (Longo, 2005; Pandey, Hart, & Tiwary, 2003).

In considering CHI research to date, four observations can be noted:

- It has been grounded in theoretical frameworks that focus on specific behaviours such as online searching or reading ability, in contrast to drawing on frameworks that allow for the broader, more holistic exploration of people’s overall experiences of their health information environment;
- It has focused on specific patient populations (i.e. cancer or HIV patients) and therefore has limited generalizability to the general public and their everyday health information needs, and few studies have attempted to focus on CHI within the context of ageing;
- It has employed research methods which focus on developing a profile of the common characteristics of the “typical” person’s CHI activities, and has not utilised research methods that allow the exploration of critical differences in people’s experiences of their health information environment – no CHI research has been conducted from a relational perspective; and,
- Very little has been conducted within the Australian context.

In this study, the research object is not health behaviour, health literacy or health communication, as described above – the object of this study

is HIL. Thus, here CHI research intersects with relational IL research to create the first study of people's experience of HIL and the first CHI study using a relational perspective.

The relational perspective does not focus separately on people or information, but rather on the experienced relationship between them. Thus, the researchers seek an understanding of the participants' experience and strive to produce an accurate description of the relations in that experience. No one experience is seen as being more or less valid than another.

The relational approach to IL (Bruce, 1997), adopted for this study, was developed using the phenomenographic method and focuses on the unique experience of individuals and groups in their informational life-worlds, and how they use information to learn (Bruce, 2008). According to this approach, IL "is a way of engaging with, and learning about, subject matter; it is about using information in a variety of meaningful ways" (Bruce & Candy, 2000, p. 7). Adopting the relational approach, attention is turned toward exploring variation in people's information and learning experiences. "The relational approach differs significantly from those usually adopted in that it is based on the lived experience of people interacting with their information environment" (Bruce, 1997, p. 20).

The relational approach to IL was selected to guide the research because of its holistic or experiential focus on learning. The current research perceives IL distinctively in that it provides a view of how a person relates to, and experiences, their information environment. IL goes beyond a focus on specific information behaviours or acts by encompassing people's broader experiences of using information to learn. The relational approach thus provides a theoretical basis for the development of HIL, understood here to be people's use of relevant information to learn about health.

This chapter illustrates how IL research in the context of everyday life may be augmented, specifically in the health field, by adopting a re-

lational approach to CHI research which results in a perspective different from those described above and which extends the MLA working definition. The study described here establishes the experience of HIL as a new area of enquiry; and proposes the relational approach as having an interest to the broader domain of CHI research.

RESEARCH PROTOCOL

Aims

The project reported in this paper investigated variation in the experience of using information to learn about health in the ageing community, with specific reference to Australians in the 65 to 79 year old age bracket. The key research objective was to uncover variation in the experience of HIL within this group.

Researchers

The research was conducted by a team of qualitative researchers at Queensland University of Technology and Griffith University, Brisbane, Queensland, Australia from 2011 to 2013. Employees of the Queensland Health Contact Centre and other health professionals provided feedback on the findings.

Participants

The participants in this study were 22 Australians from the 65 to 79 year old age group, who responded to a call for volunteers. Calls for participation were made through more than 20 organisations including retirees and seniors organisations, garden clubs, aged care centres, volunteer groups (for example, The Queensland Maritime Museum), friends of galleries and libraries (for example, the Queensland Art Gallery and State Library), retirement villages, QUT Alumni and retirees, Probus Clubs, Men's Sheds and the

Older Women's Network Queensland. Participants (7 male and 15 female) were from diverse family, educational and vocational backgrounds; including single and married academics, housekeepers, mariners, nurses, tradespeople and librarians. All participants lived in South East Queensland.

When applying purposeful sampling to phenomenography, 20 interviews have been observed to be sufficient to meet the goal of revealing variation in experience (Sandberg, 2000). Confirming this, the research team member conducting the interviews perceived new experiences were not being expressed during the latter interviews. Patton affirms "purposeful samples should be judged according to the purpose and rationale of the study: Does the sampling strategy support the study's purpose?... The validity, meaningfulness, and insights generated from qualitative inquiry have more to do with the information richness of the cases selected and the observational/analytical capabilities of the researcher than with sample size" (2002, p. 245).

Methodological Approach

The study adopted a phenomenographic approach (Marton & Booth, 1997). Phenomenography has become part of the suite of qualitative research methods used in both LIS (Bruce, 2000; Limberg, 2000) and health research (Barnard, 1999; Dahlgren, 1991; Schembri & Sandberg, 2011; McCosker, Barnard, & Gerber, 2004). It has been applied with a view to informing professional practice (Sandberg, 2000; Stoodley, 2009). It is increasingly employed to investigate information experience and has been contextualised to the investigation of people's experience of HIL (Yates, Partridge, & Bruce, 2012).

A core premise of phenomenography is that people experience the world in a finite number of qualitatively different ways. Phenomenographic analysis offers insight into participants' perspectives, which is useful for interacting with them, especially when planning educational interventions.

The method does not focus on either information or people, but the experienced relationship between them, commonly interpreted from evidence gathered through interviews which are designed to reveal it. The method is thus known as being "relational". It thus does not focus on individuals' skills, activities or decision-making. It also represents all possible experiences of a cohort as a group, rather than specific behaviours common to all its members.

The practical implications of phenomenographic research are considerable. They may inform a) the design of systems and their enhancement, b) systems implementation and training, c) the design of information products, d) the education and training of users, e) the education and training of professionals (i.e. community health or information professionals), and f) the evaluation of systems and services (Bruce, 1999, p. 41).

This approach has been recognised as helping us to reconstruct our understanding of IL as we "abandon the attempt to artificially construct the phenomenon by creating our own definitions" (Bruce, 1997, p. 21), allowing us instead to faithfully describe variation in participants' own information and learning experiences. The phenomenographic approach underpinning this view of IL allows researchers to move beyond studying the "average person's" experience to instead exploring critical variations in the range of experiences present in the entire population. The categories found do not correlate with individuals, rather together they represent the range of possible experiences within the group.

Data Gathering Processes

During 2010 and 2011 empirical evidence was collected through semi-structured interviews approximately 45 minutes in length. Interviews in phenomenographic research are designed to allow participants to choose their perspectives and to ensure that researchers do not impose particular views of the phenomenon. Interviews often begin

by enquiring about a concrete experience and then move on to more abstract questions. In this study the interviews were oriented around the following questions:

- Can you describe a time when you used information to learn about your health?
 - What about a time when you used information for your health in general or for living a healthy lifestyle?
- What kinds of information have you used to learn about your health?
 - Is there anything else that informs you when you are learning about your health?
 - Is there a difference in the way that you use these different kinds of information?

Questions of this form have been adopted in several phenomenographic studies of IL (Gunton, Bruce, & Stoodley, 2012; Edwards, 2006; Lupton, 2004; Gunton, Bruce, & Stoodley, 2012; Yates et al., 2012; Maybee, 2006), and have been tested for effectiveness through multiple piloting processes.

Analysis Processes

Core to a phenomenographic understanding of experience is the concept of changing awareness. As aspects of our environment become more or less relevant to us, our attention is constantly altering focus. Thus, what we perceive as central and peripheral continually adjusts. Nevertheless, certain ways of experiencing our environment, defined by qualitative shifts of awareness, may be identified as watersheds, which lead us into new ways of understanding our environment. These watersheds indicate critical points for learning and personal change (Edwards, 2006, 2007).

Phenomenographic description presents the elements of such experience in *Categories of description*. The *Focus* of a category represents that which is at the centre of awareness and de-

finer how the category is different from the other categories (for example, the focus may be managing information relating to health, in contrast to another focus of exploring our own experience of health). The *Margin* represents that which is at the periphery of awareness (for example, participating in a community of learners). Each category has a unique focus but categories may share the same margin. Operating across the categories are *Dimensions* of the experience, which change nature in each category (for example, the beneficiary may be oneself in one category but include others in another category). Other elements of experience are the *Act* (the action associated with it, for example following a standard process to investigate a health need) and the *Indirect Object* (its goal, for example becoming a change agent).

Thus, the participants' responses were examined to identify critical variation in their experiences. This was achieved through an iterative process of devising tentative categories that emerged out of the data, which were further tested against the dataset and revised, until stability was reached. An initial subset of nine interviews was drawn on, chosen for their potential to reveal variation. The resulting categories were then tested against the whole set of transcripts.

The experience is described through three key aspects of HIL – information, learning and health. The result is an empirically based theoretical lens on the experience of 65 to 79 year old Australians of HIL.

Validity and Reliability

Validity and reliability testing may be approached from different perspectives. The analysis conforms to the following requirements of validity and reliability.

A validity test of qualitative research which meets traditional research expectations includes aspects such as evidence of unbiased sampling, justified question design, absence of pre-existing frameworks imposed on the analysis and illustra-

tive participant quotes in the category descriptions (Cope, 2004). Validity established in alignment with the method's philosophical underpinnings identifies coherent communication between researcher, participants and other researchers; makes pragmatic connection with reality, during the research process and in applying the findings; and challenges the cohesiveness of the analysis until a stable state is reached (Sandberg, 2005).

Reliability in traditional terms requires verification from third parties who confirm that the evidence is present to support the categories described (Cope, 2004). Reliability of interpretive research may also be established through transparent verification processes through all stages (Sandberg, 2005).

PARTICIPANTS' EXPERIENCES

As a result of the above analysis process, this study found that Australians aged 65 to 79 years experience HIL in five qualitatively different ways. HIL is experienced as:

1. **Absorbing:** Intuitively receiving information for possible future use;
2. **Targeting:** Following a planned process of investigation of specific issues;
3. **Journeying:** Embarking on a personal quest which embraces their own experience;
4. **Liberating:** Equipping themselves to make independent lifestyle choices; and
5. **Collaborating:** Communicating with others to influence the community's health.

As 65 to 79 year old Australians learn about their health, they adopt one or more of these approaches, as they appear to be relevant to them. The five experiences are equally valid and a comprehensive experience of HIL would embrace all of them. It should be noted that these do not represent developmental stages. They are together

meant to offer a description of key variation in the cohort's experience of HIL.

A map of these five experiences is presented in Table 1, which helps visualise the variation of experience found, offers insight into the differences in awareness across the experiences and provides detail of core aspects of each type of experience.

The variation experienced across the categories in relation to three aspects of HIL – information, learning and health – provides insight into the awareness of 65 to 79 year old Australians as they experience HIL in these different ways:

- *Information* refers to what 65 to 79 year old Australians consider to be the source material for learning. It may be, for example, the spoken word of a television programme, the written text of a journal or the data produced by a medical measuring instrument.
- *Learning* refers to what approach 65 to 79 year old Australians employ to learn about health. For example, they may commit advice in a journal to memory, keep a log of their health incidents for referral at their next appointment with the doctor or meet with others in the community to talk about a specific health concern.
- *Health* refers to how 65 to 79 year old Australians envisage their well being. For example, it may be a vague sense of wellness, esteeming mental as much as physical health or seen in terms of the health of the whole community.

We now present a detailed description of 65 to 79 year old Australians' experiences of HIL, taking each category in turn. These descriptions begin with a general statement explaining the meaning of each category. They then indicate the elements of focus, act, indirect object and margin, and aspects of information, learning and health pertinent to that experience. Together, these portray the distinctive features of each way of ex-

Table 1. Map of 65 to 79 year old Australians' experience of HIL

Category	Meaning	Focus	Act	Indirect Object	Margin	Expanding awareness	Dimensions		
							Information	Learning	Health
1. Absorbing	HIL is intuitive; you don't make any particular effort to learn. You absorb knowledge as it comes to you in the natural course of life, for possible future use. You expect to recall what is necessary to meet a health crisis when it happens.	Encountered information	Being receptive	Memorising	Context	External information for potential contexts	Information is stable and meaningful across time, and seen as useful independent of its context.	Learning is about memory and recall	Not clearly defined
2. Targeting a. organising complexity b. leveraging knowledge	HIL is a planned process; you devise a strategy to learn. You organise information and remain in control of the procedure at all times. You trust a methodical process will lead you to defensible truth.	Defensible truth	Managing information	Following a process	Internal information	External information in context	Information is complex and needs to be governed in its own context, in order for it to be useful.	Learning is about assembling and managing information	Defined by professionals
3. Journeying a. embodied knowledge b. accumulated experience	HIL is a personal quest; you are intimately involved in learning. You follow leads which include your own experience and bodily information. You may discover unanticipated destinations.	Personal engagement	Following leads	Becoming self aware	Empowerment	External and internal information in context	Information is sourced internally as well as externally. It is relevant according to your context.	Learning is about taking your own experience seriously	Discovered personally
4. Liberating	HIL is entrepreneurial; your goal in learning is to gain control. You become able to exercise power over your circumstances. You develop confidence in facing lifestyle choices independently.	Personal control	Conscious decision-making	Becoming a change agent	Other people as responsible and benefiting	External and internal information changing context	Information is influential, helping you make decisions that change your life.	Learning is about becoming equipped to make lifestyle decisions	Personally controlled
5. Collaborating a. for own health b. for others' health	HIL is communal; you learn in association with others. As you relate to other people, you benefit mutually and influence each others' health decisions. You grow as a communal change agent.	Communal health	Communicating in community	Becoming a communal change agent	Unbounded, within the health field	External and internal information changing the wider context	Information is powerful, helping you change your community, and is relevant across contexts.	Learning is about participating in community	Defined in community

periencing. Then, patterns of variation which may be discerned across the categories are explored.

Absorbing

When 65 to 79 year old Australians experience HIL as “absorbing”, they see learning as intuitive, requiring no particular effort from the learner. Thus, they remain open to general health information in the course of everyday life, which they perceive may be of use in the future. They trust that they will be able to recall this information at their point of need.

In this experience, the focus of ageing Australians is on encountered information. They engage in this experience by being receptive to health information, which they expect to remember.

Their experience of HIL is open-ended and not contextualized to their circumstances. They remain generally receptive to information, as it comes across their path. Other people are not present in their awareness. (Note: Numerals following illustrative quotes indicate the participant number. Two numbers indicate two participants were interviewed at once. “I” stands for “Interviewer” and “P” stands for “Participant”.)

as for the information from this bloke... what can I do with it except store it... mentally take note of it?... you file it in your mind and that's something else that you've learnt or you may need one day (4)

You absorb all this information and you're not consciously thinking "I got that from the TV" or "I got that from a book" or whatever. You just absorb it and it's there. (20)

HIL Aspects

When experiencing HIL as absorbing, the HIL aspects reflect a vaguely delineated perspective.

Information

When 65 to 79 year old Australians experience HIL as “absorbing”, they view information as being stable and meaningful across time. They believe it can be stored now and can be relied on to be relevant in the future.

... if I come across something that I think I could use later on... I will store it up here [points to head]. (7)

Learning

When 65 to 79 year old Australians experience HIL as “absorbing”, they view learning as memory and recall. They believe learning is intuitive and not requiring any particular effort on their part.

We skip through it all and then stuff that's applicable we study. It's usually ditched at that point. It's sort of in the mind. (18&19)

Health

When 65 to 79 year old Australians experience HIL as “absorbing”, they do not have a clearly defined view of health. They consider health to be anything about general well being.

I'm not sure how I find the information. I don't actively seek it, but in the back of my mind it's always "How can I improve my health?" (10)

Targeting

When 65 to 79 year old Australians experience HIL as “targeting”, they see learning as a planned process, requiring them to organise and control information. Thus, they focus their investigation on a specific need, devise a research plan and manage information as they put that plan into effect. They consider that a pre-determined, methodical process will always lead them to defensible truth.

In this experience, the focus of ageing Australians is on reliable truth. They engage in this

experience by following a scientific procedure they have confidence will lead them to objective facts, which they can apply to their specific health issues.

Their experience of HIL is externalised; others determine the ground rules and they do not see themselves as influential over their resulting health. Nevertheless, what is perceived to be relevant is determined by their health needs, and other people's needs are not present in their awareness.

Subcategories

This category has two sub-categories, which represent different aspects of the same focus of attention – organising complexity and leveraging knowledge.

Organising Complexity

When 65 to 79 year old Australians experience HIL as “organising complexity”, they are focussed on having a dependable procedure in place. They may group similar information together, and keep records of their health history and questions. These records are referred to from time to time, when an issue arises or in preparation for a consultation with a doctor.

... the first thing I do before I go to the doctor is get out my notebook and see if there is anything I have written... since I last went to see him that I want to ask him about. So that can be things like scripts that I need to refill or questions (7)

Basically, I try and look at the general picture first. There's Wikipedia and all those sort of sources, using Google. There are lots of health research sources usually in the US and Europe or the UK, and some Australian ones, too. They often give you a general overview of an area of interest, and then they often have links to parts of the information to expand on that. (8)

Leveraging Knowledge

When 65 to 79 year old Australians experience HIL as “leveraging knowledge”, they are focussed on using information strategically. They may use the information they have to formulate questions for their practitioner, assess further input on a topic and confirm evidence for a particular point of view. The accuracy of the information is considered carefully, including questioning the trustworthiness of its source.

... there is so much information there (on the internet) and as a lay person I really don't have the ability to diagnose. But it will lead me in certain directions and give me ideas on questions to ask. So I'll use that information to help me ask questions. (6)

Being an aged cynic, I find that I tend to be a bit wary about information anyway and I think that if that information is put out by an independent body then I think one would tend to accept it, whereas if it's put out by a drug company then I think you'd have to look twice at it and think it's just another method of getting more money... Most advertising, promotions from drug companies is there to their benefit, not yours or mine. So, that's when you need to start looking at other sources of information and compare it. (15)

HIL Aspects

When experiencing HIL as targeting, the HIL aspects reflect a structured perspective.

Information

When 65 to 79 year old Australians experience HIL as “targeting”, they view information as being complex and needing to be controlled. They believe that information becomes useful when it is managed systematically. Such managed information will then provide them with a dependable basis from which to learn.

I try and look at the general picture first... using Google... a general overview of an area of interest, and then... links to parts of the information to expand on that. (8)

Learning

When 65 to 79 year old Australians experience HIL as “targeting”, they view learning as assembling and managing information. They believe learning is a systematic process, which will reliably lead them to proven, accurate and well-founded answers to their questions.

I think it's a logical thing for me. It's being scientific, Ockham's Razor and all the rest of it. You're making a logical decision about what's more likely to be right. (18&19)

Health

When 65 to 79 year old Australians experience HIL as “targeting”, they view health as that which is defined by professionals. They consider health to be what the formally qualified say it is.

We followed precisely everything that we were told to do and we never deviated... he obeyed the doctor to the nth degree... In the important box was to walk down the road we were told to walk down. (1)

Journeying

When 65 to 79 year old Australians experience HIL as “journeying”, they see learning as a personal quest, requiring their intimate engagement. Thus, they esteem information that comes from their own selves, using their bodily information or accumulated experience as they learn. They follow leads as they arise, accepting detours as contributing positively to the learning experience.

In this experience, the focus of ageing Australians is on personal engagement. They engage by

following leads presented to them by their own bodies and experience, which may take them to unanticipated destinations. Their goal is to become increasingly self-aware concerning health.

Their experience of HIL is internalised, they value their ability to perceive truth, make discoveries personally and explore their context. Other people are not present in their awareness.

Subcategories

This category has two sub-categories, which represent different aspects of the same focus of attention – embodied knowledge and accumulated experience.

Embodied Knowledge

When 65 to 79 year old Australians experience HIL as “embodied knowledge” they are focussed on observing their own symptoms, in order to adjust their lifestyle or treatment plan. They may be assisted in this by a medical device that monitors a particular aspect of their health such as a glucometer for calculating and monitoring blood glucose level.

So I probably am a very bad patient because I'm so determined to finish jobs and do things that I want to do that I don't listen to my body well enough, and I have been told to listen to my body over and over again. (2)

every time I'd go to the doctor, I'd ask questions but they didn't seem to know much about it because they kept saying it was so rare and just fobbed me off that way. And then I used trial and error as I went along!... I'm not supposed to go out in the sun and I find different foods affect me... It's just a matter of learning what upsets you and what doesn't. It's like most things, you learn how to cope with it. (20)

Accumulated Experience

When 65 to 79 year old Australians experience HIL as “accumulated experience”, they are focussed on relying on their own ability to make sensible decisions based on their health history. They remain open to their own life’s informal lessons and apply them to future needs. This means living a varied life and taking on new ideas.

I'm a person who uses common sense, so therefore I think my basic nursing training helped me... It was just natural; I didn't do any great reading or anything like that... I just used common sense... I'm very highly critical of all the information that's put out there, you can read so much and get so confused with it all, you don't know what's what - so I don't read it!... Life is a journey and it's not a straight road... But when you deviate, it's in the deviation that you gain that experience... So, you've got to deviate and it's in that journey of deviation that your lifestyle comes and in that journey you learn how to lead a healthy life. (1)

you go with your gut feeling... It's a thing like "No, I won't do that, that's going to be completely wrong" and you feel that. Or, on the other hand, "This is good. All the vibes are good. That'll be fine." And I've done it all my life and I'm still here... it just sort of comes. I think experience, too. When you're young you don't sort of sit down and think... "Whatever's going to happen" sort of thing... but after a while you learn and you sense these things more. I was a twin, so I think I've got more of a sense of joining with people. And I sort of get feelings... It's just a feeling I get, I don't know where it comes from. I: You've found that reliable? P: Totally. And it's what I go with. (20)

HIL Aspects

When experiencing HIL as journeying, the HIL aspects reflect an intimate perspective.

Information

When 65 to 79 year old Australians experience HIL as “journeying”, they view information as being sourced internally as well as externally. They believe it includes their own accumulated experience and bodily functions.

My own bodily condition... Deterioration in various faculties and activities. A tendency to avoid doing some things... because it's going to show a shortcoming in your physical system which you'd rather not acknowledge... (14)

Learning

When 65 to 79 year old Australians experience HIL as “journeying”, they view learning as taking their own experience seriously. They believe their own experience provides as reliable and authoritative source of health information as do external sources.

You sort of know "I can't do that" or "I can't take that." "No, that'll make me sick." From past experience. (21)

Health

When 65 to 79 year old Australians experience HIL as “journeying”, they view health as that which is discovered by themselves. They consider their accumulated experience in life to offer valid insight into health.

To me, healthy is a whole big umbrella, not just one thing... a combination of things and a lot of it to me is common sense (10)

Liberating

When 65 to 79 year old Australians experience HIL as “liberating”, they see learning as a means of equipping themselves to make independent life-style choices. Thus, they may supplement health professionals’ opinions with other information,

exercising their own judgement as they learn. They see themselves as entrepreneurs, defining their health and exercising choice concerning their lifestyle.

In this experience, the focus of ageing Australians is on exercising personal control. They engage in this experience by taking conscious decisions about their health, with a view to becoming an agent of change in their own lives.

Their experience of HIL is empowering, they become increasingly confident in exerting that influence over their own lives. Other people are not present in their awareness as having primary responsibility and benefit.

I wouldn't put it off, now that I've confronted an issue of paramount importance so effectively a couple of years ago I wouldn't be scared to go on. If I realised I could have a problem... I'd go and see my doctor straight away and have a chat and start working out routines. (12)

the rehab place... gave him a... card with all those... numbers... so when you're looking at a product you can make a value judgement... "It's 100mg over but he only eats a teaspoon a day." ... you can... have that flexibility within the parameters (16)

HIL Aspects

When experiencing HIL as liberating, the HIL aspects reflect an empowered perspective.

Information

When 65 to 79 year old Australians experience HIL as "liberating", they view information as being influential to enable change. They believe it forms the foundation for independent decision-making which changes their lifestyle.

I went and got the information myself... once I knew and understood it and I knew what was

going on, I could do something about it. I could make up my mind. (3)

Learning

When 65 to 79 year old Australians experience HIL as "liberating", they view learning as equipping themselves to make lifestyle decisions. They believe the purpose of learning is to change their lives in significant ways.

But it's the way it's presented that's useful, where they talk around the issue, not just "Here's the solution to your problem". They talk about the whole condition, and the options and the outcomes. (13)

Health

When 65 to 79 year old Australians experience HIL as "liberating", they view health to be controlled by themselves. They consider health to be what they conclude is appropriate in their own circumstances.

they gave me a book... it described the condition... what foods you should eat and the exercise program you should participate in... And I stick to it pretty well, not wholeheartedly... I still feel you've got to enjoy your life and have the odd chocolate or two. (2)

Collaborating

When 65 to 79 year old Australians experience HIL as "collaborating", they see learning as occurring through association with others. Thus, they are active in a community of learners, gaining knowledge from others and acting as a source of knowledge for others. They see themselves both influenced by others and influencing others.

In this experience, the focus of 65 to 79 year old Australians is communal health. They engage in this experience by communicating with others in their community. Their goal is to become a communal change agent.

Their experience of HIL is shared, they learn and they help others learn through participating in community. This is the most expansive of the experiences of HIL.

Subcategories

This category has two sub-categories, which represent different aspects of the same focus of attention – sharing for own health and sharing for others' health.

Sharing for Own Health

When 65 to 79 year old Australians experience HIL as "sharing for own health", they are focussed on using information from others, in order to manage their own health. They may observe others from a distance or have intentional direct interaction with them, prompting action by the learner to make a change towards better personal health.

One friend had had a triple bypass and he showed me his scar and frightened the daylight out of me, saying that if I didn't wake up to myself I'd be having the same problem... the way he said it and the way he showed me I thought, "Okay, perhaps I'll take this more seriously"... (2)

My parents at the age of 50 were very old. They were playing bowls, gardening, doing that sort of thing and I didn't want to become like that. So in one way I suppose they showed me what not to do... don't want to be old and inactive. I want to be old and still be able to travel... (10)

Sharing for Others' Health

When 65 to 79 year old Australians experience HIL as "sharing for others' health", they are focussed on conveying information to others, which they perceive could be useful to those people in managing their health. This is typically unsolicited, offered in the interest of being helpful.

when my husband had a heart attack... they gave him a special diet... So it was... not my health, but his health and I... constantly think about diet and things like that. (1)

A friend was telling me of some difficulties he was having and I said, "That sounds like you've got heart problems. I'm serious about this. Go and get it checked out." ... three months later I get a phone call. "I'm just ringing to tell you that you saved my life and to say "Thank you." I did what you suggested... I had three nearly blocked arteries." (14)

HIL Aspects

When experiencing HIL as collaborating, the HIL aspects reflect a socially interactive perspective.

Information

When 65 to 79 year old Australians experience HIL as "collaborating", they view information as being powerful across contexts. They believe it forms the basis for a change in the health of the community, which is comprised of a wide range of individual circumstances.

I have friends who take a medication but it's supposed to make your bones chalky if you take it for too long. So, I said "Do you know if you take it too long, this is what's going to happen to your bones?" (20)

Learning

When 65 to 79 year old Australians experience HIL as "collaborating", they view learning as participating in community. They believe learning includes others having an influence over them and them having an influence over others.

One friend had had a triple bypass and he showed me his scar and frightened the daylight out of me, saying that if I didn't wake up to myself I'd

be having the same problem. He said, "You don't want your chest ripped open like me do you?!" So he tore strips off me... I thought, "Okay, perhaps I'll take this more seriously" (2)

Health

When 65 to 79 year old Australians experience HIL as "collaborating", they view health as being defined and controlled in community. They consider health to be owned collectively, which benefits the individuals forming the community.

My parents at the age of 50 were very old. They were playing bowls, gardening, doing that sort of thing and I didn't want to become like that. So in one way I suppose they showed me what not to do... (10)

Patterns of Variation

Patterns may be discerned across the categories described above, further illuminating 65 to 79 year old Australians' experiences of HIL.

These patterns reveal variations in the character of elements shared by the categories and are called "patterns of variation". The elements which vary across the categories are:

1. **Context:** How much people's personal circumstances are influential;
2. **Source:** What people esteem as valid sources of information;
3. **Beneficiary:** Who people understand will benefit; and
4. **Agency:** Whether people perceive themselves as taking a passive or active role.

The variation across the categories is expressed in terms of changing awareness, however it is important to note that this does not represent developmental progression by individuals; it is rather the significant ways in which the character of people's experience changes across the

categories. Individuals may experience HIL as a combination of any of the categories of experience, according to what they perceive to be relevant at that moment in time.

Table 2 presents the variation in these elements in relation to the HIL aspects of information, learning and health.

Context

This dimension represents the way 65 to 79 year old Australians' experience of HIL is oriented towards their environment. The focus across the categories is increasingly towards responding to their circumstances (e.g. their personal health, information setting and community), changing from detached, through analytical and attentive, to engaged. The experiences range from vague notions of potential health contexts, through specific information and personal health contexts, to targeting their personal and community contexts. Across the categories, in the descriptions of the experience: information is increasingly assessed in relation to personal context, learning is tied to personal circumstances and health is progressively more defined in terms of social setting.

Source

This dimension represents the way 65 to 79 year old Australians' experience of HIL is associated with information sources. The understanding of information sources moves across the categories from a general notion, through their own experience, to the experience of their community. This is seen in the knowledge 65 to 79 year old Australians esteem. The experiences range from vague notions of the knowledge they are looking for, through accepting only "hard" knowledge of facts and figures (e.g. medical measurements, proof by scientific deduction), through embracing "soft" knowledge of feelings and intuitive understanding (e.g. drawing on their personal

Table 2. Variation in 65 to 79 year old Australians' experience of HIL, across information, learning and health

	Information	Learning	Health
Context	increasingly assessed in relation to personal context, not just impersonal but also in relation to people	increasingly tied to personal circumstances, not just individualised but also in community	increasingly defined in terms of social setting, not just seen in isolation from others
Source	increasingly widely sourced, not just externally but also from within	increasingly personal, not just concerning external sources	increasingly understood in the context of the community, not just in isolation
Beneficiary	escalating in influence, not just to the individual but also to the community	increasingly communal, not just about yourself as an individual	increasingly owned by the community, not just defined by individuals in isolation
Agency	increasing in personal usefulness, not just to answer questions but also to instigate change	increasingly influential over the future, not just reactive to your current circumstances	increasingly defined by yourself, not just defined by professionals

experience), to seeking the knowledge found in community with others. In the descriptions of the experience: information is more and more widely sourced, learning is increasingly personal and health is progressively more understood in the context of the community.

Beneficiary

This dimension represents the way 65 to 79 year old Australians' experience of HIL is related to the beneficiaries. The understanding of who the learning is relevant to ranges across the categories from self to the wider community. This is seen in ageing Australians' perception of the scope of influence exerted by others and themselves, with the knowledge gained perceived as being increasingly relevant to others. In the descriptions of the experience: information is increasingly influential over others, learning becomes more communal and health is more and more owned by the community.

Agency

This dimension represents the way 65 to 79 year old Australians' experience of HIL is related to empowerment. The engagement with HIL moves

across the categories from passive reception, through active pursuit, to proactive planning. This is seen in ageing Australians' ability to instigate change and in their perception of control over their circumstances. The experiences range from reacting to advice and circumstances, through actively seeking solutions and knowledge, to proactively mitigating against future health challenges. Control of health decisions is increasingly in the hands of the individual, and those who exercise the right of decision making for health ranges from people external to self (who are followed) to self choosing a lifestyle and health outcome for which personal responsibility is accepted. In the descriptions of the experience: information is increasingly personally useful, learning becomes progressively more influential over the future and health is increasingly defined by self.

The experience of 65 to 79 year old Australians of HIL is thus depicted as being progressively more sophisticated across the categories. The approach to HIL moves across the categories from single sanctioned sources, simple procedure and physical wellbeing, to embrace multiple information sources, dynamic learning methods and holistic wellbeing.

FUTURE RESEARCH DIRECTIONS

The wider project within which this study fits has two aims: first, to map variation in ageing Australians' experience of HIL; second, to establish a national evidence-based guide to support the creation of information resources and services for ageing Australians. The map and guide will be useful to help ageing Australians develop their information skills so they can become proactive in their health choices and learn how to age well. Both the map and the guide will be the first of their kind internationally and may form the basis for other HIL research. This paper represents outcomes related to the first aim, based on one of the age groups involved.

The depth of results obtained from this highly focussed context reveal the potential of such research to inform practice in specific contexts. The central idea that a complete HIL experience would encompass all categories suggests that health focussed learning and information environments encountered by ageing Australians should embrace the full range of experiences. The clear identification of different foci and varying understandings of information, learning and health in each experience provides a foundation for interventions. It suggests that discovery of the breadth of experience for different client subgroups through similar research is integral to the delivery of effective health education.

From this study we begin to see that the categories may be considered as thresholds (Meyer & Land, 2003; Cousin, 2007), or watershed moments (Edwards, 2006, 2007), critical points of understanding that launch us into new ways of experiencing our health information environment. If we stay in familiar conceptual territory we risk never growing in our experience, however once we cross a conceptual threshold our perspective is changed irrevocably. Crossing a threshold however means venturing into previously unknown territory, requiring both intellectual openness and experiential courage. There are many possible

stimuli which foster such change – in the health context it may be, amongst other things, a crisis (e.g. bad health news), an epiphany (e.g. realisation of our own health responsibilities), or a new example (e.g. a friend facing their own health crisis). Any adoption of a new way of experiencing HIL to another way of experiencing it requires a crossing of such a threshold, prompted by interaction with a change in information environment.

The adoption of such outcomes in practice is a process which itself needs to be researched for potential effectiveness. New directions in phenomenography which attend to different aspects of the learning experience have considerable potential for such work. While these directions, which involve exploring the intended, enacted and lived outcomes of an intentionally designed learning experience, are at present being trialled in educational settings (Maybee, Bruce, Lupton, & Redmann, in press), they show considerable promise for use in other contexts, such as the community research of interest to this chapter.

In the health context, further exploration is also needed into the support clients need to manage threshold transitions, for example in emotional, not just intellectual, terms. Such insights could have application beyond the health field.

CONCLUSION

HIL is understood here, from a relational perspective, to mean people's use of relevant information to learn about health. Exploration of how people relate to their information environment with a view to learning provides a means of developing our theoretical understanding of HIL beyond existing paradigms. The chapter illustrates the richness and potential contribution of relational IL to information science.

In this investigation, the experience of 65 to 79 year old Australians of HIL is represented in five qualitatively different ways:

1. **Absorbing:** Intuitively receiving information for possible future use;
2. **Targeting:** Following a planned process of investigation of specific issues;
3. **Journeying:** Embarking on a personal quest which embraces their own experience;
4. **Liberating:** Equipping themselves to make independent lifestyle choices; and
5. **Collaborating:** Communicating with others to influence the community's health.

These different categories illustrate expanding awareness in 65 to 79 year old Australians' experience of HIL. Each category indicates a fundamentally different way of understanding of HIL, which has pervasive consequences. Each experience constitutes a unique awareness which is a different way of experiencing and so they augment each other. A wider awareness is thought to be more desirable than a narrower one, as it provides more options for the experiencer and gives them an enhanced understanding of the phenomenon. If the aim of education is to enrich the learner's experience, then a primary goal will be to expand their awareness. This highlights the importance of providing an environment that challenges learners to cross conceptual thresholds in order to enter into a new experience of the phenomenon.

These experiences may be understood to vary across the following common aspects:

1. **Context:** How much their personal circumstances are influential;
2. **Source:** What they esteem as valid sources of information;
3. **Beneficiary:** Who they understand will benefit; and
4. **Agency:** Whether they perceive themselves as taking a passive or active role.

The categories in this chapter are understood to represent means of introducing learners to an increasingly complex experience of HIL. Hence, a health educator may wish to discern their clients'

current state of awareness and use the framework to consider ways to prompt clients to cross the necessary conceptual thresholds to enter into different categories' experiences, as is appropriate to their needs. Such a prompt may simply be to present an alternative point of view, another prompt may be to help clients see the shortcomings of their current state of awareness and another prompt may be to introduce clients to networks in which alternative views are expressed. Patients with the most comprehensive experience have the greatest choice in approaching a specific context, enabling them to select the appropriate experiences of HIL to the situation in which they find themselves. The map thus offers a health learning tool, for patient and practitioner alike.

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KEY TERMS AND DEFINITIONS

Health Information Literacy: This is people's use of relevant information to learn about health.

Information Literacy: This is presented here from a relational perspective, as people's experience of using information to learn in a particular context.

Threshold Concepts: These are critical points of understanding that launch us permanently into a new ways of experiencing our environment. Crossing a threshold requires intellectual openness and experiential courage.