Technology and ageing:
A person-centred study on the introduction and wellbeing impact of handheld tablets to residents of care homes

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ABSTRACT

This study initially aimed to examine the impact of handheld tablets on the wellbeing of care home residents, specifically regarding connection and social connectedness, with the central research question: How does a handheld tablet intervention impact the wellbeing of older people living in a care home? As the research progressed and complex environmental challenges emerged, the study shifted from mixed methods to primarily ethnographic approaches, leading to the emergence of two additional research questions. One focused on the research design: How can a person-centred approach be used to introduce handheld tablets to older people living in a care home? The other, from autoethnography: How does undertaking person-centred research in a care home affect the researcher? This thesis guides the reader through the origins of the study as part of a larger funded project and details the complexities of conducting technology-based research in a care home setting for both participants and researchers. After a comprehensive review of the literature, data from various sources is presented: journal entries, observation notes, informal discussion notes, interview quotes, and questionnaire responses. Following the thematic analysis, the findings are organised into three sections: a narrative account of the fieldwork; a case series for the six participants and the researcher; and five overarching themes based on the New Economics Foundation's Five Ways to Wellbeing actions. The study concludes that handheld tablets can enhance the wellbeing of residents who are able and willing to engage, especially in connecting with others and accessing societal services. However, training, hardware, and software must be adapted to meet individual needs. Furthermore, it offers invaluable insights for researchers on the complexities of implementing technological interventions in this environment over an extended period. This thesis presents two outputs: the Gerontechnological Principle Guidelines and the 'Formula of the Perfect Person'.

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LIST OF ABBREVIATIONS

ANT – Actor Network Theory

BT – British Telecommunications

CASP-19 – Operational measure

CAT – Co-constitution of ageing and technology

CDC – Cornwall Development Company

C-UTAUT – Compatibility UTAUT

DOI – Diffusions of Innovation Theory

eSDRCH – eServices on Demand for Residential Care Homes

GPG – Gerontechnological Principle Guidelines

ICE CAP-0 – Capability Measure for Older People Questionnaire

ICT – Information and Communication Technology

LSNS – Lubben Social Network Scale

MOHOST – Model of Human Occupation Screening Tool

NEF – New Economics Foundation

OECD – Organisation for Economic Cooperation and Development

OPQOL-35 – Older People’s Quality of Life Questionnaire

PC – Personal Computer

PEOU – Perceived ease-of-use

PU – Perceived usefulness

RCT – Randomised control trial

REC – Research Ethics Committee

SCREC – Social Care Research Ethics Committee

SOC – Selective Optimisation with Compensation

SPS-10 – Social Provision Scale

SST – Socioemotional Selectivity Theory

STAM – Senior Technology Acceptance and Adoption Model

STS – Science and technology studies

TAM – Technology Acceptance Model

TIB – Theory of Interpersonal Behaviour

TPB – Theory of Planned Behaviour

TRA – Theory of Reasoned Action

UTAUT – Unified Theory of Acceptance and Use of Technology

WEMWBS – Warwick-Edinburgh Mental Wellbeing Scale

Wi-Fi – Wireless internet network

PREAMBLE

I begin this thesis by outlining the rationale behind this study and clarifying my position. This PhD research uses a person-centred approach to introduce handheld tablets to a group of older individuals residing in a care home[1]. By customising three elements—training, hardware, and software—individuals were encouraged to connect with people, communities, and society using the handheld tablet. It was part of a larger funded initiative at Falmouth University called eServices on Demand for Residential Care Homes (eSDRCH). The eSDRCH project was partially funded by Superfast Cornwall, involving a partnership between British Telecommunications (BT) and the Cornwall Development Company (CDC). Although the PhD was included in the same funding application, it had distinct objectives.

ESDRCH aimed to investigate the use of various digital technology devices within an open platform[2] in a care home environment (Hill 2016; Care Standards Act 2000 c14). The devices included a variety of remote services, sensors, and software, such as motion sensors, aperture devices, digital televisions, and digital thermostatic controls for radiators, utilising a superfast broadband connection. The care home provider was chosen in the early stages of eSDRCH and was already a partner when I joined the team. Connected Living, a technology company, handled the project's technical aspects. As a researcher on the eSDRCH team, my tasks included understanding the physical care home environment and its needs, applying the intervention, and managing the data-collection process. For eSDRCH, the engineers advocated testing specific devices to gather objective data in the care home environment, using a top-down, technology-focused approach. Although I was involved in both aspects, I concluded that the approach taken by eSDRCH was inadequate, and therefore, this PhD study was to focus on individual needs

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[1] A care home is an umbrella term used to describe a facility that provides both accommodation and nursing care needs to residents. A home that does not provide nursing care needs is called a 'residential home' or 'care home', and a home that provides nursing care is called a 'care home with nursing', or a 'nursing home' (Hill 2016). The terminology varies across the UK and internationally in places such as Japan and the USA. The Care Standards Act 2000 saw the terms 'residential homes' (providing residents with personal and social care needs) and 'nursing homes' (providing nursing care for people who are well enough not to be in hospital but are unable to look after themselves and need help eating, bathing, getting dressed, or may need help from qualified nurses, physio and occupational therapists) replaced with the term 'care home', which includes institutions that provide accommodation with nursing or personal care (Care Standards Act 2000 c14). In line with the Care Standards Act 2000, the term 'care home' is used in this thesis to refer to homes that offer accommodation either with or without nursing.

[2] An open platform uses open standards allowing products and services from different providers to integrate on the same system.

through a bottom-up approach[3]. In working with the care home, I identified that a technology enabling connection was most needed. The handheld tablet was selected for its ability to customise hardware and software based on individual needs. This device enabled residents to connect to people, community, and society through various applications such as email, video calling, eBooks, TV on demand, the internet, and games. The selection of the device is detailed in Chapter Two, the customisation of the device is detailed in Chapters Four and Five, and individual stories are told in Chapter Six.

The two separate projects, eSDRCH and the PhD, continued to operate side by side due to funding constraints, and I worked as both a paid researcher at Falmouth University and a PhD researcher. However, the two projects posed different research questions, tested different devices, and employed different methodologies. For eSDRCH, there was minimal interaction with residents and carers, as most of the work could be conducted remotely. When devices and sensors required attention, trained personnel fixed them, arriving and leaving with limited interaction with residents or carers. In contrast, the interaction for the PhD study was entirely different. The PhD utilised a flexible design[4], in which I immersed myself in the environment using ethnographic methods, grounding myself in residents' lives by listening to their individual voices. Working alongside those living and working at the care home, I adopted a bottom-up approach that facilitated organic growth by building trust. Ultimately, I employed a nuanced, person-centred lens to introduce the technological intervention.

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[3] A bottom-up approach is when decisions or change come from the ground upward where voices are heard, and nothing is pushed down from the top. This method is used in public health and community development to facilitate change and enable long-term adoption. Examples are public health initiatives (such as education around malaria, women's health and vaccinations) and local community development projects (such as the Connected Communities in the Beacon Estate, UK).

[4] Research that is flexible and not rigid, where the research adapts as it progresses, such as changes in data-collection methods, changes in research questions, or changes in participant-inclusion criteria (van Dulmen et al. 2017a; Jacobs et al. 2017b; McCormack 2003a; Brown-Wilson 2007)

CHAPTER ONE: INTRODUCTION

Technology has become an essential part of our daily lives, influencing our social networks, lifestyles, and identities (Peine et al. 2021). We are now facing two major forces transforming society: a demographic shift related to an ageing population, and rapid technological advancement. This has become more evident than ever due to the COVID-19 pandemic. Part of this thesis was written during the COVID-19 lockdown, while the fieldwork was conducted from 2014 to 2016, before the pandemic. The pandemic highlighted the importance of digital technology. Without it, many aspects of our lives would have come to a halt during this period. As older individuals are considered at high risk from COVID-19, human contact was limited during the pandemic, leading to connections being made through technologies that, according to Peine et al. (2021: 3), 'already lurked in the background as shiny and obvious saviours'.

This chapter expands on the preamble and offers the reader additional insights into key areas crucial to the research, including ageing, wellbeing, connection, care homes, and technology. According to Peine et al. (2021), technology is now regarded as a tool for delivering many services remotely, including healthcare, and acts as a means of communication for individuals and society. The growth of the ageing population is one of the most significant global trends shaping policy today, as older individuals make up a larger share of the total population than in the past (McDaniel and Zimmer 2013; United Nations Department of Economic and Social Affairs 2010). Since 1950, the proportion of older people worldwide has steadily increased, from 8% in 1950 to 11% in 2009, and it is projected to reach 22% by 2050[5] (United Nations Department of Economic and Social Affairs 2010). In the United Kingdom, the population of over-65-year-olds is estimated to be over 7.5 million in 2040 (Centre for Ageing Better 2025).

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[5] The proportion of older people is increasing at 2.6% globally per annum with the fastest growing age group being 80 years old and older (United Nations Department of Economic and Social Affairs 2010).

This PhD aimed to assess the impact of using handheld tablets on the wellbeing of a group of older adults living in a care home and to answer the following question: How does a handheld tablet intervention influence the wellbeing of older people living in a care home? Wellbeing is described as:

> … how people feel and function, both on a personal and social level, and how they evaluate their lives as a whole. To break this down, how people feel refers to emotions such as happiness or anxiety. How people function refers to things such as their sense of competence or their sense of being connected to those around them. How people evaluate their life as a whole is captured in their satisfaction with their lives, or how they rate their lives in comparison with the best possible life. (Michaelson 2012: 6)

Connection is a vital aspect of wellbeing and a specific focus of this study, particularly in relation to social connectedness. Evidence-based methods to enhance wellbeing involve fostering connections with valued people, social groups, places, and communities (Liddle et al. 2021). Humans require social connection and companionship; a lack of connection can leave individuals feeling isolated, which may negatively impact their health and wellbeing[6] (Wherton et al. 2015). This is explained in detail in Chapter Two. The New Economics Foundation's Five Ways to Wellbeing (Aked et al. 2008; Michaelson et al. 2012) serves as a framework for the analysis and presentation of themes in Chapter Seven.

Many researchers contribute to the growing body of literature on older people using digital technologies to enhance connection and reduce isolation (Hope et al. 2014; Khosravi et al. 2016; Clayton 2018; Poscia et al. 2018; Neves et al. 2019; Francis et al. 2019; Fakoya et al. 2020; Sen et al. 2022; Liddle et al. 2021; Petersen et al. 2023; Wright et al. 2023). However, its success depends on the acceptance and adoption of the technology. As individuals age, their bodies and minds undergo changes that involve both physical and mental transformations (Cozza 2021). Technology must be developed to meet these changing needs. The existing literature emphasises placing the 'person' at the centre of technological interventions, shifting the focus towards personalising training and tailoring technological devices (Jacobs et al. 2017a; van Dulmen et al. 2017a; Juul et al. 2019). Consequently, I reviewed the social care literature to explore person-centred care models, as the fieldwork is conducted in an environment that supports individuals in the final

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[6] Social isolation can have a negative impact on mental health in the form of anxiety (Fees et al. 1999), depression (Cacioppo et al. 2006; Golden et al. 2009), cognitive decline (Tilvis et al. 2004; Wilson et al. 2007). In addition, it can have a negative impact on physical health conditions in the form of coronary heart disease (Chen and Chan 2011; Shankar et al. 2011; Valtorta et al. 2016), lung disease (Penninx et al. 1999), high blood pressure (Steptoe et al. 2004; Hawkley et al. 2006), obesity (Lauder et al. 2006), arthritis (Penninx et al. 1999) and poor sleep (Cacioppo et al. 2002; McHugh and Lawlor 2012).

stages of life. Following this, I adapted the Person-centred Nursing Framework by McCormack and McCance (2006, 2010a) to create the Gerontechnological Principle Guidelines (GPG), to guide the fieldwork using a person-centred perspective. The GPG is introduced in Chapter Three, with its application detailed in Chapter Five.

This person-centred approach required shifting away from the planned mixed methods focused on qualitative data to primarily ethnographic methods over an extended period. With the change in research design, the study aimed to answer a second question: How can a person-centred approach be used to introduce handheld tablets to older people living in a care home? Finally, during analysis and write-up, an autoethnographic element was recognised, leading to the retrospective application of an autoethnographic lens to explore a third question: How does undertaking person-centred research in a care home affect the researcher?

1.1 Aim of study

Initially, this study aimed to explore the impact of using handheld tablets on the wellbeing of older people living in a care home, and to address the following question:

1. How does a handheld tablet intervention impact the wellbeing of older people living in a care home?

However, over time, the focus shifted to problematising the introduction of handheld tablets, and the study aimed to answer an additional question:

2. How can a person-centred approach be used to introduce handheld tablets to older people living in a care home?

Finally, during the analysis and write-up, an autoethnographic element was identified, leading to the formulation of a third research question:

3. How does undertaking person-centred research in a care home affect the researcher?

This study has the following objectives:

1. To assess the impact of using handheld tablets on the wellbeing of the participants.
2. To introduce the handheld tablets using a person-centred approach, and record and report on using this approach.
3. To report on the impact of the research using a retrospective autoethnographic lens.

By employing diverse data collection methods, I guide the reader through the fieldwork experience. In response to environmental challenges, the study shifts from mixed methods to predominantly ethnographic approaches, utilising various methods, including journal writing, observational accounts, informal discussions, interview quotes, and questionnaire responses.

1.2 Contribution to knowledge

This study makes five key contributions to knowledge. The first is the impact on wellbeing, where handheld tablets can enhance the wellbeing of some residents who are willing and able to engage, particularly by connecting them with others and enabling access to societal services. However, it is crucial that the training, hardware, and software are personalised to meet the individual's needs. Secondly, this study makes a methodological contribution by adapting a person-centred framework from the social care sector to create one better suited to introducing technological interventions into care home environments. This framework is called the Gerontechnological Principles Guidelines. Thirdly, it offers an ethnographic contribution through a detailed account of the person-centred introduction and adoption of technology in a care home. This account describes the practicalities of implementing technology in such settings, providing real-world context for the reader. Fourthly, an autoethnographic narrative details the challenges and effects encountered by the researcher during person-centred research in a care home, offering new insights into the researcher’s role and experiences. Finally, this study provides an interdisciplinary contribution by integrating insights from various fields, demonstrating how research on the introduction and adoption of technology in care homes can be enriched through cross-disciplinary knowledge.

In this thesis, I present two outputs—Gerontechnological Principle Guidelines and the 'Formula of the Perfect Person' —for researchers introducing a technological intervention for care home residents aimed at enhancing wellbeing over an extended period. They will be of interest to researchers implementing personalised technological interventions to improve long-term wellbeing for care home residents. The GPG emphasises connection as the central person-centred principle, with two key focus areas—the first concentrates on the researcher, and the second on the person-centred process. The 'Formula of the Perfect Person' describes the characteristics of participants who engaged with the devices over the long term.

The contributions to knowledge will be explored in detail in Chapter Eight.

1.3 Outline of the thesis

In the first half of the thesis, I establish the foundation and present the literature, theory, and methodology. In the second half, I provide the results across three chapters. Finally, the discussion synthesises all the material in response to the research questions.

The literature review in Chapter Two outlines relevant studies on the fundamental pillars of the research: ageing, wellbeing, connection, care homes, and technology. An interdisciplinary approach has been employed, drawing on sources spanning multiple fields and introducing various theories, models, and critical debates. Finally, the emerging literature from the combined areas of the fundamental pillars and the associated critical theory is presented, revealing a significant gap in knowledge. This chapter aims to support the research by offering a comprehensive overview of the main areas of influence.

Chapter Three outlines the theoretical framework supporting the study. It provides the background of person-centred care. This chapter introduces the Person-centred Nursing Framework, which I adapt to create the GPG, a set of guidelines designed to guide the fieldwork from a person-centred perspective. The GPG contribution to knowledge.

Chapter Four outlines the research design and methodological approach, and describes the data collection methods. It clarifies the shift from primarily mixed-methods to predominantly ethnographic approaches, including journal extracts, observation notes, informal discussions, interview quotes, and questionnaire responses. This chapter also addresses the ethical considerations involved in researching with vulnerable participants. Finally, it details the procedures used to analyse the data.

Chapter Five is the first results chapter, presenting the story of a technological intervention in a care home through a person-centred philosophy. It guides the reader through an evolving journey and reflects on the use of the GPG in conducting research in a care home setting. This chapter explains practical aspects, such as working with residents while navigating their fluctuating health and needs. Chapter Five provides a nuanced view of the processes involved in undertaking a person-centred study and shares lessons learned during the fieldwork. This detailed account and the valuable insights highlight the complexities of implementing technological interventions within the care home environment over an extended period. These insights are a contribution to knowledge.

Chapter Six presents a case series that vividly illustrates the individual stories of the six participants and me. The cases include a variety of details such as early life histories, experiences of moving into care homes, and involvement in the study. These individual cases give participants a voice, emphasise their uniqueness, and ultimately demonstrate how the one-size-fits-all model fails to serve this age group. Additionally, this chapter features my autoethnographic reflections on how the research affected me. I describe feelings of sadness, guilt, anger, helplessness, and more. This autoethnographic account is a contribution to knowledge.

Chapter Seven explores the main themes arising from the study. Using the New Economics Foundation's 'Five Ways to Wellbeing' actions as a framework, the themes are organised under the following headings: connect, be active, take notice, keep learning, and give. Chapter Seven presents a range of evidence, including observational accounts, interview quotes, informal discussions, and journal entries, to bring the research to life. Finally, it introduces a framework called the 'Formula of the Perfect Person', who engaged with the study, as a contribution to knowledge.

Chapter Eight summarises the previous chapters and provides a general discussion to answer the three research questions. It also outlines the challenges, limitations, and recommendations for future research. Chapter Eight delivers a comprehensive conclusion for the thesis.

1.4 Conclusion

This chapter introduced the research and outlined two key drivers transforming society: the first is the demographic shift associated with an ageing population, and the second is rapid technological advancement. It detailed the aim, identified the research questions and objectives, and highlighted the study’s contribution to knowledge. Finally, each chapter is summarised, providing the reader with a clear overview of the thesis structure. The next chapter presents the current literature and identifies the knowledge gap.

CHAPTER TWO: LITERATURE REVIEW

Building on the key ideas introduced in Chapter One, this chapter provides an overview of relevant theories, models, and critical perspectives related to this study. It starts with a discussion of ageing, exploring essential sociological and psychological theories that offer frameworks for understanding how individuals experience and adapt to ageing, with a particular focus on 'successful ageing'. The chapter then investigates critical gerontology, analysing how societal structures, cultural norms, and power dynamics influence the experiences of older adults. It moves on to explore wellbeing, initially outlining the subject broadly before considering it as a contested and ever-changing area of research. Different models and indices of wellbeing are examined, and the New Economics Foundation (NEF) Five Ways to Wellbeing model — which supports the analysis in Chapter Seven — is discussed in detail. Connection, especially social connectedness and social capital, is analysed as it relates to wellbeing. Finally, these concepts are considered within the context of care home environments.

Following this introduction to the intersecting domains at the centre of this study, I will explore the relationship between ageing and technology, focusing on approaches to digital technology adoption and broader critical sociocultural and philosophical implications. Finally, I will examine emerging literature on ageing, wellbeing, and technology. As noted in the introduction, the fieldwork was conducted between 2014 and 2016, followed by the writing of this thesis. After completing the fieldwork, several related studies were identified. Crucially, this section analyses the most recent data and situates the study within the emerging literature, aiming to identify gaps and the knowledge claims of my thesis.

While an in-depth survey of all these domains is beyond the scope of this research, this chapter aims to synthesise the literature across the interconnected areas to lay the groundwork for the theoretical framework and research design introduced in the subsequent chapters.

2.1 Ageing

Ageing is generally understood as a process that leads to a gradual reduction in physiological reserves, a higher likelihood of various illnesses, and a decline in overall capacity (World Health Organization 2015). In simple terms, ageing is a genetically programmed mechanism for limiting population size and preventing overcrowding through the gradual deterioration of the molecular and cellular components of the human body (Kirkwood 2005; Steves et al. 2012); from birth, all humans begin to age. Scientifically, ageing is described as changes in tissues, organs, cells, and molecules (Kirkwood and Austad 2000), with individuals being vulnerable to a wide range of factors, both life course and non-genetic, where genetic factors are not the sole contributors to the ageing process (Davies 2013). Biomedical theories define ageing as the process of optimising life expectancy while minimising physical and mental decline (Bowling 2007). Outcome indicators are published measures that quantify issues such as disability-free life expectancy, active life expectancy, absence of chronic disease, perceived good health, and functional performance and mobility.

Ageing can be viewed from two different perspectives. The first is the heroic or positive discourse, where people are seen as fit, content, and actively engaged with life (Rowe and Kahn 1998). The second is the deficit or negative discourse, in which old age is regarded as a period of loss, decline, or social withdrawal (Davies 2013; Cozza 2021). Critical gerontology, which is described later in this section, challenges the negative view.

Although many aspects of ageing are random, an individual's behaviour and environment can significantly influence the ageing process. To support people appropriately and humanely, it is important to recognise that decline is not viewed as failure, and that adaptation and accommodation are not signs of dependency (Powell and Owen 2005) or weakness (Kleiber and Genoe 2012). Ageing is also a complex concept that encompasses a range of often conflicting biomedical, sociological, psychological, and philosophical theories.

The difference between sociological and psychological theories of ageing mainly lies in their focus, methods, and the aspects of ageing they emphasise. Although both types of theory aim to understand the ageing process and its effects, they approach the subject from different perspectives, highlighting various parts of the ageing experience. Furthermore, sociological theories often explore how societal structures and systems create differences in ageing experiences across groups — such as racial, gender, and class disparities. In contrast, psychological theories tend to focus on individual behaviours and attitudes towards these societal factors. As a result, psychological theories often aim to develop interventions to improve mental health and coping strategies (Bowling 2007). In contrast, sociological theories might support societal reforms to enhance the collective experience of ageing within communities (Marshall 2008). Within the scope of this thesis, and the broader field of social gerontology, this section will focus on sociological and psychological theories of ageing, as well as the ideas of 'critical gerontology' and 'successful ageing'.

2.1.1 Ageing through a sociological lens

Sociological theories of ageing mainly focus on the social contexts, structures, and interactions that shape the experiences of ageing individuals. These theories often investigate how societal norms, values, institutions, and interactions influence ageing. For example, Activity Theory and Disengagement Theory look at how social roles and participation in community life affect psychological wellbeing and life satisfaction in older adults (Thuesen et al. 2021). Sociological perspectives frequently consider macro-level influences, such as policies and societal attitudes towards ageing, as key factors impacting individual experiences (Bal et al. 2012). Therefore, sociological theories of ageing remain grounded in collective human phenomena and the ways societal structures shape ageing, using relevant frameworks to analyse the social implications of ageing. Below, I will examine the three most prominent sociological theories that address how individuals adapt in later life: Activity Theory, Disengagement Theory, and Continuity Theory.

2.1.1.1 Activity Theory

Activity Theory[7], initially proposed by Havighurst (1961) in the 1950s and 1960s, hypothesises that older people engaged in a variety of social activities have better life satisfaction than those

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[7] Lemon explains that life satisfaction depends on having a handful of role identities, such as when people engage in a variety of activities, they receive support to reaffirm these identities, which leads to positive self-regard (Lemon et al.

who are not and that as people age, they replace lost roles (Lemon et al. 1972; Menec 2003). Examples of these include older people maintaining social interactions and embracing productive roles in society, such as volunteering (Teles and Ribeiro 2019). According to Kleiber and Genoe (2012), Activity Theory is recognised as a general theory of ageing within the successful ageing paradigm. Although this theory gives us an optimistic view of ageing, it has been criticised for being too simplistic to capture the realities of old age (Bowling 2007; Utz et al. 2002). According to Burnett-Wolle and Godbey (2007), Activity Theory does not consider a person's resources, and, given its emphasis on social activities, it contradicts research recommending solitary activities as valuable for older people. This theory is directly linked to the Five Ways to Wellbeing action 'to give', which will be detailed later in this chapter. The data will be connected to this theory in Chapters Six and Seven.

2.1.1.2 Disengagement Theory

In contrast, the Disengagement Theory proposed by Cumming and Henry (1961) suggests that mutual withdrawal between older individuals and society is reasonable as death approaches; more specifically, it describes how society disconnects from older adults, which reflects ageism. According to Rosenberg (2022), this theory is less focused on the individual and more aware of societal influences on the experience of ageing. Established over 50 years ago in response to Activity Theory, it has been discredited for two main reasons: first, because it provides a rationale for neglecting older people as if they prefer to be left alone; and second, because it does not explain why older adults withdraw from society or activity (Achenbaum and Bengtson 1994).

2.1.1.3 Continuity Theory

The Continuity Theory, which is the most significant among the three classic sociological theories, was developed by Atchley in response to the Activity Theory and Disengagement Theory (Bengtson et al. 2005). The Continuity Theory proposes that older individuals adapt over time to new circumstances by following similar patterns they have developed throughout life, while their

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1972). According to Menec (2003), researchers have found a link between activity engagement and better functioning, happiness and reduced mortality in later life.

personalities tend to remain relatively stable as they age (Atchley 1989). For instance, a person who prefers solitude and privacy is likely to maintain this pattern throughout their life. Conversely, those who enjoy engaging in activities and being social are inclined to continue with these patterns (Bowling 2007). This theory offers an alternative to the above two theories, but according to Utz et al. (2002), it has been criticised for failing to fully consider the influence of social structure and the context of ageing on continuity, as it does not adequately acknowledge that changes in later life can challenge continuity. The theory accounts for how individuals' patterns tend to stay consistent as they age. This will be expanded upon in Chapters Five, Six, and Seven. Furthermore, it forms the basis of the 'Formula of the Perfect Person' introduced in Chapter Seven.

2.1.2 Ageing through a psychological lens

The psychological theories of ageing focus on the individual cognitive and emotional processes associated with growing older. For instance, Socioemotional Selectivity Theory addresses how ageing individuals adjust their priorities and emotional regulation based on their perception of time remaining in life (Carstensen 2006). The psychological focus emphasises personal development, mental health, emotional wellbeing, and individual coping mechanisms in the face of ageing (Bowling 2007). Psychological perspectives often explore the internal experiences of ageing, examining how attitudes and personality traits influence responses to age-related changes (Drewelies et al. 2019). This intrapersonal approach highlights the psychological resilience and adaptation processes of older adults, emphasising the subjective experience of ageing rather than societal context. Below, I will discuss the four prominent psychological theories that examine an individual's adaptation in later life. These include three control and independence theories, namely Selective Optimisation with Compensation Theory, Socioemotional Selectivity Theory, and Psychosocial Stage Theory. This will be followed by Innovation Theory, a theory of self and identity.

2.1.2.1 Selective Optimisation with Compensation Theory

The Selective Optimisation with Compensation Theory (SOC) was developed by Baltes and Baltes (1990) and hypothesises that older people adapt to age-related losses while maintaining and improving their quality of life (Freund 2008). They suggest that the older person responds to limiting factors by selecting activities of choice, abandoning less meaningful activities, and compensating to optimise the limited number of options (Baltes and Baltes 1990). Selection occurs when activities are reduced to those most important, and compensation happens when there is a gradual decrease in capacity and energy, such as using assistive technology (like information and communication technology) to help maintain involvement (Baltes 1997). This theory is highly relevant to the study because participants use information and communication technology to support social connectedness. Additionally, it is directly linked to many of the Five Ways to Wellbeing actions, which will be outlined later in this chapter. The data will relate to this theory in Chapters Five, Six, and Seven.

2.1.2.2 Socioemotional Selectivity Theory

The Socioemotional Selectivity Theory (SST) combines insights from SOC and social exchange theory to explain why interaction networks and social interactions decrease over time for an older person (Carstensen et al. 2003). As older people become aware of their limited time, they tend to focus on seeking positive emotions and engaging with familiar individuals rather than forming new relationships, which can be unpredictable and potentially unpleasant (Carstensen 1992, 2006, 2021; Carstensen et al. 2003). This ‘positivity bias’ leads the older person to prioritise present satisfaction (Kleiber and Genoe 2012). The theory is directly related to the Five Ways to Wellbeing action ‘connecting to people’, which will be discussed later in this chapter. The data will be connected to this theory in Chapters Five, Six, and Seven.

2.1.2.3 Psychosocial Stage Theory

The Psychosocial Stage Theory, developed by Erikson (1959, 1963), proposes that various ideologies, such as growth, independence, contribution to the future, connectedness, and peace, significantly influence decisions and adjustments in later life, regardless of individual circumstances. These ideologies can be understood through the motives of ego, integrity, and generativity. Generativity involves contributing to the wellbeing of future generations, through activities like organisational work, mentoring, charitable work, or caring for grandchildren. This can be done either selfishly or selflessly (or both), often connected to a desire for immortality or a willingness to sacrifice self-interest for a community or grandchildren. Integrity refers to the understanding and acceptance of oneself, gained through reminiscence. This theory is directly linked to the Five Ways to Wellbeing actions ‘take notice’ and ‘to give’, which will be discussed later in this chapter. The data will be related to this theory in Chapters Five, Six, and Seven.

2.1.2.4 Innovation Theory

The Innovation Theory, proposed by Nimrod and Kleiber (2007), focuses exclusively on leisure and innovation in later life and falls within the ‘successful ageing’ paradigm. There are two types of innovation: the first is self-preservation innovation, where aspects from the individual’s past are reconstructed in new ways; the second is self-reinvention innovation, where changes in behaviour are unrelated to the past (Nimrod 2008; Nimrod and Janke 2012). Both contribute to wellbeing in later life by providing opportunities to deepen and broaden one’s sense of meaning (Nimrod 2016). This theory is reflected in the interest of older people trying new activities, as ‘you can teach an old dog new tricks, in fact, old dogs often want to learn’ (Carstensen et al. 2003: 53). It is directly connected to the Five Ways to Wellbeing actions ‘to learn’, which will be elaborated on later in this chapter. The data will be linked to this theory in Chapters Five, Six, and Seven.

2.1.3 Critical gerontology

Critical gerontology arose in the 1980s as a reaction to ‘depictions of the old as passive dependents whose demands on our economy and time create social problems’ (King and Calasanti 2006: 139). This was partly due to recognising how the lives of older people were impacted by retrenchment and recession (Bernard and Scharf 2007), and partly as a response to the collection of large data sets on older people, which led to the dominance of positive thinking and empiricism in this field (Johnson et al. 1999; Achenbaum 2005). Doheny and Jones (2021) suggest that issues in social gerontology were identified by researchers with a background in critical theory.

Critical gerontology or critical theory of ageing investigates old age and ageing from an alternative perspective by analysing inequality and power dynamics within society (Minkler 1996; Baars et al.

2016; Doheny and Jones 2021). Key concepts in critical gerontology include social construction, ageism, power relations, agency, and inequalities. Social construction proposes that ageing, beyond being a biological process of decline (biological ageing), is also a socially constructed phenomenon where values, expectations, and societal norms shape our perception of old age and ageing (Lu et al. 2023). Ageism involves discrimination, prejudice, and stereotyping based on a person's age, where older individuals are viewed as a burden on society (Peine 2019). Widespread and often rooted in sociocultural structures, traditional ageing theories, and medicalisation, ageism devalues and marginalises older people (Bytheway 2005; Levy and MacDonald 2016). The perspective of power and inequality explores how older people's experiences are affected by power relations and disparities, especially when intersecting factors such as gender, class, race, and disability influence challenges and opportunities in later life (Lu et al. 2023). Agency and resistance refer to how older individuals oppose ageist policies and practices through activism and advocacy, aiming to challenge age-based discrimination and foster social change (Mitchell 2021). Lastly, structural inequalities highlight how societal disparities impact the health and wellbeing of older people, affecting access to healthcare, social support, and resources (Marmot et al. 2020a; Gilmore-Bykovskyi et al. 2022).

Within the field of critical gerontology, the concept of 'successful ageing' stands out as one of its most influential approaches, featuring terms like 'positive', 'active', and 'healthy' ageing that have been responsible for shaping numerous theoretical models, retirement lifestyles, and policy agendas (Katz and Calasanti 2015). In this area, Rowe and Kahn developed one of the most well-known paradigms called 'successful ageing', which combines physical, cognitive, and lifestyle factors, asserting that a good lifestyle can lead to successful ageing (Rowe and Kahn 1997, 1998, 2015). These factors include preventing disease and disability, fostering social engagement, and maintaining both physical and mental functions, which requires 'full engagement in life, including productive activities and interpersonal relations' (Rowe and Kahn 1997: 367). Although widely embraced, Rowe and Kahn's framework has received significant criticism from researchers for its assumptions regarding agency, lifestyle, and individual choice (Katz and Calasanti 2015; Rubinstein and de Medeiros 2015), with Dillaway and Byrnes (2009: 705) arguing that 'the successful ageing paradigm seems to define success as an outcome … a game which can be won or lost based on whether or not individuals are diagnosed as successful and usual'.

2.2 Wellbeing

In the broadest sense, wellbeing pertains to a life that is good for the individual living it (Haybron 2008). Aristotle argued that flourishing was the aim of human existence (Adler and Seligman 2016) in which there is simultaneously an absence of damaging elements of human experience[8] and the presence of enabling elements[9] (Seligman and Csikszentmihalyi 2000). Today, human flourishing is one way of describing wellbeing, a field that has evolved and expanded over time, with an ever-increasing body of literature (Diener et al. 1999; Keyes and Annas 2009; Seligman 2011; Dodge et al. 2012; Robeyns 2020).

However, despite these general sentiments, the definition of wellbeing remains a highly contested area. Jackson et al. (2022: 121) note that despite its importance across political, social, and economic spheres, 'there is a remarkable lack of agreement regarding the definition, conceptualisation or operationalisation of wellbeing'. This is echoed by Das et al. (2020: 24), who state that the wellbeing literature 'lacks a coherent theoretical and methodological framework'. The absence of consensus is confirmed by Cooke et al. (2016: 730), who reviewed 42 instruments to measure wellbeing and concluded that 'there is considerable disagreement regarding how to understand and measure wellbeing properly', and is supported by Martela and Sheldon (2019), who identified 45 different ways of conceptualising various dimensions of wellbeing using 63 dissimilar constructs. According to Van Agteren et al. (2021), despite the different operationalisations of wellbeing, a range of overlapping terms is used in the literature, where, for example, subjective wellbeing is often used interchangeably with psychological wellbeing, mental wellbeing, and happiness. The definition of wellbeing tends to focus on the various dimensions rather than a single, definitive meaning (Dodge et al. 2012; Milton 2018; Martela 2024).

Two schools of thought have emerged that outline a multidimensional construct of wellbeing, namely subjective wellbeing and psychological wellbeing (Dodge et al. 2012; Diener et al. 2003). The subjective or hedonic tradition pertains to people's experiences and is regarded as stable and strongly linked to personality traits (Milton 2018). It is characterised by feeling good, which

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[8] Such as fear, anger, anxiety and depression (Seligman and Csikszentmihalyi 2000)

[9] Such as self-actualisation, engagement, positive emotions, meaning, environmental mastery, healthy relationships (Seligman and Csikszentmihalyi 2000)

includes delight and self-indulgence (Keyes and Annas 2009, Francesconi 2018). It is self-reported across subjective aspects[10] and psychological aspects[11] (Ryff 1989, Diener et al. 2003). On the other hand, the psychological or eudaemonic tradition is characterised by (Dodge et al. 2012: 223) ‘positive psychological functioning and human development’ and is seen as being meaningfully engaged in life by pursuing meaning and self-realisation (Francesconi 2018, Sutton 2020; Haim-Litevsky et al. 2023). Advocates of the eudaemonic approach argue that leading a wholesome life and actualising one’s potential can lead to increased levels of wellbeing (Delle Fave et al. 2011).

2.2.1 Critical theory of wellbeing

The critical theory of wellbeing examines the underlying political, social, and economic structures that influence an individual’s experiences of wellbeing. Traditional perspectives focus on individual factors such as psychological states, personal choices, and behaviours, which are often seen in narrower views of wellbeing. In contrast, critical theory considers broader societal factors that shape and limit individuals' ability to lead fulfilling lives. It includes factors such as structural inequality, power dynamics, societal determinants of health, emancipatory practices, and intersectionality. Structural inequality emphasises disparities based on class, gender, race, and access to resources, all of which affect wellbeing (Marmot 2010, Marmot et al. 2020a). These factors, along with social determinants like education, employment, community support, and housing, predispose people to poorer health and shorter lives. According to Marmot et al. (2020b: 3), ‘the amount of time people spend in poor health has increased across England since 2010. As we reported in 2010, inequalities in poor health harm individuals, families, and communities, and are costly to the public purse. They are also unnecessary and can be reduced through appropriate policies.’ Critical theory recognises the interconnectedness of experiences and identities by exploring how various dimensions of identity converge to shape a person’s wellbeing and experiences of oppression. An intersectional approach addresses the complexity of people’s experiences, thereby fostering more equitable and inclusive understandings of wellbeing. Power imbalances can lead to oppression, marginalisation, and exclusion, which negatively affect wellbeing. These dynamics are especially relevant to this age group, whether living in a care home

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[10] Such as the presence of positive emotions, satisfaction of life and low negative emotions (Ryff 1989, Diener et al. 2003)

[11] Such as self-acceptance, meaning and purpose in life, environmental mastery, positive relationships with others, personal growth and autonomy (Ryff 1989, Diener et al. 2003)

or at home (Minkler 1996; Baars et al. 2016; Doheny and Jones 2021). The development of emancipatory practices is promoted, encouraging individuals and communities to challenge oppressive structures and advocate for social justice. By advocating for equity, social change, and empowerment, critical theory aims to create the conditions necessary to support wellbeing for everyone within society.

2.2.2 Various wellbeing dimensions

While a thorough history and comparison of all wellbeing models are beyond this thesis's scope, it is useful to observe that most fall into two main categories. The first is the narrower view, where the individual is central to the model. For instance, Seligman's Wellbeing Theory outlines five domains of life for people to pursue[12] (Seligman 2011). Similarly, Ryff's model of psychological wellbeing has six dimensions[13] (Ryff 1989; Ryff and Keyes 1995).

The second perspective is the broader view, which aligns with critical theory, where the individual is part of a wider environment. For example, Knight and McNaught's (2011) framework, shown in Figure 1, presents a broader lens with various domains that extend beyond individual subjectivity to include family, community, and society, along with a range of forces such as environmental, political, geographic, and socio-economic factors. While the individual is situated within the model, their perspective does not dominate it, as the framework considers a wider array of aspects that could influence wellbeing. The individual has the power and capacity to interpret and shape wellbeing within a dynamic structure, involving lived components and relationships that are constantly changing; in this view, wellbeing is not a fixed state. This framework was created to help healthcare practitioners and researchers determine the most suitable levels of intervention but does not encompass the global domain.

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[12] Positive emotion, engagement, positive relationships, meaning, achievement known at PERMA (Seligman 2011)

[13] Self-acceptance, purpose in life, autonomy, personal growth, positive interpersonal relationships, environmental mastery (Ryff 1989; Ryff and Keyes 1995)

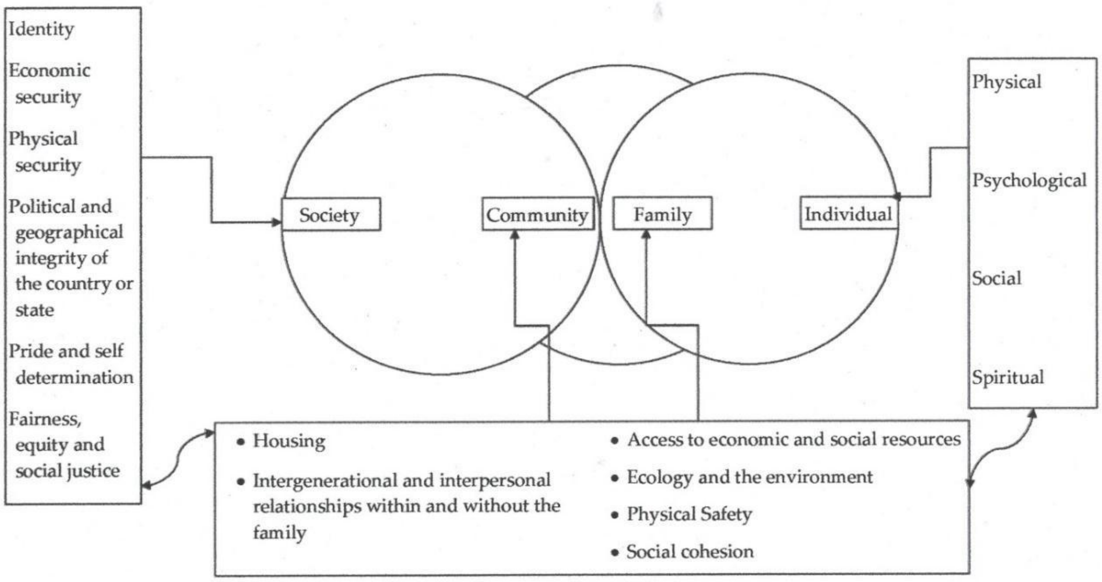

Figure 1: A structured framework for defining wellbeing
(McNaught 2011: 32). Reproduced with the kind permission of Lantern Publishing.

In response to the increasing social inequalities, new conceptualisations have shifted from mainly economic measures (such as the standard of living and gross domestic product) to more progressive measures related to quality of life using quantifiable social or economic indicators (such as living conditions and leisure time) (Das et al. 2020; Lambert et al. 2020). Wellbeing indicators are emerging as a national outcome to rival traditional gross domestic product (GDP) (Hogan et al. 2015, Simons and Baldwin 2021). According to Frijters and Krekel (2021: 22), ‘governments and policy-making institutions should openly adopt an actual measure of wellbeing and make the wellbeing of the population the primary objective of policy-making’. There are also several indices related to wellbeing. For example, the Organisation for Economic Cooperation and Development’s (OECD) Your Better Life Index and Gullup World Poll. The OECD’s Your Better Life Index has 11 foci[14] that are considered essential for quality of life (OECD 2011). The Gullup World Poll relies on three leading indicators[15], and is used to measure subjective wellbeing on a global scale, as reported in the World Happiness Report (Helliwell et al. 2024). There is now a worldwide consensus that wealth is not enough. Governments around the world are focussing on happiness and wellbeing by signing up to the UAE’s Global Happiness and Wellbeing Coalition (The Global

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[14] Housing, income, jobs, community, education, environment, governance, health, life satisfaction, safety, work-life balance (OECD 2011).

[15] Positive emotions, negative emotions, life evaluations (Helliwell 2024).

Council for Happiness and Wellbeing 2019). According to the Global Council for Happiness and Wellbeing:

> The pursuit of happiness is as old as politics itself. Yet three things are bringing happiness and wellbeing to the top of the global policy agenda. First, more and more nations are learning that economic growth alone is not enough to produce happiness. Second, as psychological science has demonstrated, happiness and wellbeing can now be measured and studied with rigor. Third, there are new and effective public policies for raising societal wellbeing. This Global Happiness and Wellbeing Policy Report is based on the idea that the "pursuit of happiness" should no longer be left to the individual or the marketplace alone. Happiness and wellbeing should be of paramount concern for all of society, engaging governments, companies, schools, healthcare systems, and other sectors of society. (The Global Council for Happiness and Wellbeing 2019: 4)

According to researchers, as wellbeing continues to develop, it is understood across various disciplines through different perspectives by a range of models (Lambert et al. 2020, Haim-Litevsky et al. 2023).

2.2.3 Five Ways to Wellbeing

Within the scope of this thesis, I have adopted the New Economics Foundation model as a foundation for wellbeing. In light of the global interest in wellbeing, in 2008, the New Economics Foundation (NEF)[16] was commissioned by the UK Government to conduct an extensive literature review to explain the drivers behind wellbeing and devise a set of actions to enhance personal wellbeing (Thompson and Marks 2008). The NEF describes wellbeing as:

> … how people feel and how they function, both on a personal and social level, and how they evaluate their lives as a whole. To break this down, how people feel refers to emotions such as happiness or anxiety. How people function refers to things such as their sense of competence or their sense of being connected to those around them. How people evaluate their life as a whole is captured in their satisfaction with their lives, or how they rate their lives in comparison with the best possible life. (Michaelson, Mahony and Schiffers 2012: 6)

The model developed by NEF illustrates how a person's external conditions, such as income and social networks, act together with their personal resources, such as health and resilience, to influence how they function and the emotions they experience. When people experience positive

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[16] The UK's leading think tank promoting social, economic and environmental justice

feelings and function well, they are seen as flourishing, which is shown in Figure 2**.** Following the model's development, NEF was commissioned to develop actions based on the evidence. These actions, known as the Five Ways to Wellbeing (Aked et al. 2008; Michaelson et al. 2012), are accessible to everyone and outline what an individual can do on a day-to-day basis to improve wellbeing through connecting, being active, taking notice, continuing to learn, and giving. Five Ways to Wellbeing recommends the following:

1. Connecting with those around you: family, friends, or colleagues across various settings such as home, work, or school. These individuals are regarded as the fundamental pillars of life. Investing time in and nurturing these relationships will support and enrich everyday life. The topic of connection to people will be explored in greater detail in the next section (Aked and Thompson 2011).
2. Being active: engaging in an activity that makes you feel good. This can be done indoors or outdoors, such as walking, running, dancing, gardening, or playing a game. It is about finding an activity you enjoy that also fits your mobility and fitness (Aked and Thompson 2011).
3. Taking notice: being aware of the world around you and savouring the moment, whether it is noticing the changing seasons, walking in your local neighbourhood, talking to friends over lunch, or catching sight of a beautiful sunset. It’s about being aware of what you feel and reflecting on experiences that will help you appreciate what matters most (Aked and Thompson 2011).
4. Continuing to learn: acquiring new knowledge or rediscovering old interests. This could involve signing up for a new course, developing a new skill, taking on a new responsibility, learning to play an instrument or cooking. It’s all about setting a challenge that you will enjoy achieving and hopefully having fun while doing it (Aked and Thompson 2011).
5. Giving involves offering your time to your community, friends, or family, or doing something kind for a stranger. Connecting with the wider community can be fulfilling, but remember to prioritise yourself and your happiness. This could include volunteering or simple gestures such as thanking people and smiling at them (Aked and Thompson 2011).

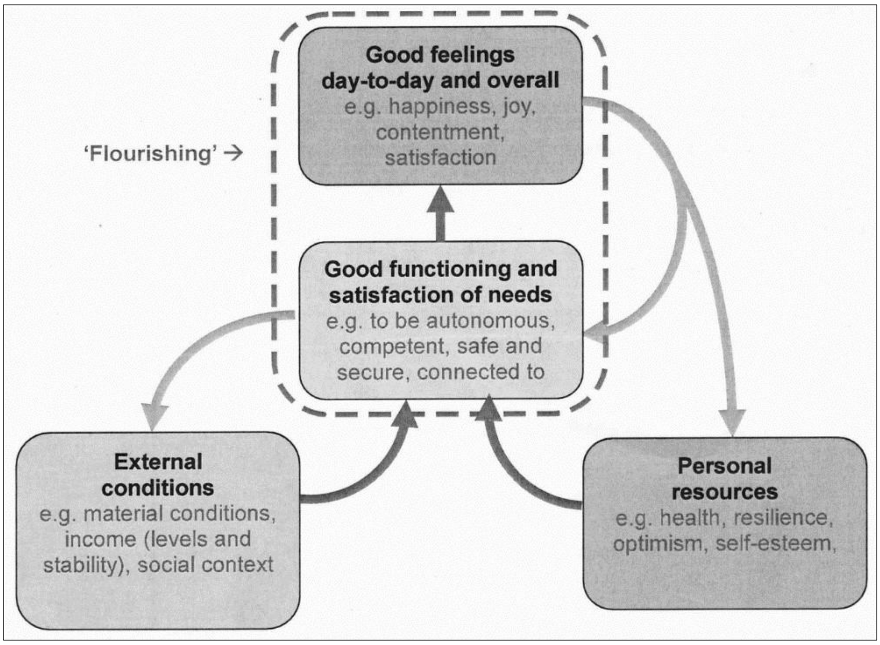

Figure 2: NEF's dynamic model of wellbeing

(Michaelson et al. 2012: 7). Free reproduction is granted by the New Economics Foundation under the Creative Commons Attribution licence.

The Five Ways to Wellbeing is widely used by many government organisations, such as AgeUK, the National Health Service, and Public Health England, and has become the primary framework for this study. In Chapter Seven, the themes are organised according to the Five Ways to Wellbeing framework.

This section suggests that wellbeing is multifaceted and a dynamic state heavily influenced by broader elements, such as people and the environment. Specifically, in this study, the wellbeing of care home residents is greatly affected by their surroundings, including care staff, other residents, and the physical environment of the care home. This study aligns with the NEF model, which offers practical solutions using the Five Ways to Wellbeing actions to enhance wellbeing. Connecting with people, communities, and societal services is a particular focus of this study, and therefore it will be examined in greater detail in the next section.

2.3 Connection

Connection is a vital part of the wellbeing puzzle as discussed earlier. Maslow (1943) theorised that a loving connection to others is an essential human need. I will refer to Maslow again in Chapter Three. Humans need social connections[17] and companionship whereby a lack of connection leaves a person disconnected, which may negatively impact wellbeing, as reported by many researchers (Dolan et al. 2008; Dolan et al. 2011; Cahill et al. 2018; Suragarn et al. 2021). Reduced connection can lead to feelings of social isolation and loneliness, which may result in poor physical and mental health, especially among older people who are at greater risk of experiencing these issues, as reported by others (United Nations Department of Economic and Social Affairs 2010; Klussman et al. 2020; Watts et al. 2022). According to Waycott et al. (2019), focusing on social connectedness rather than isolation can help develop activities that strengthen connections instead of merely alleviating isolation. Evidence-based approaches to promoting wellbeing involve supporting connections to valued individuals, social groups, places, and communities (Liddle et al. 2021). This study aims to utilise a technological intervention, specifically handheld tablets, to improve connection with other people, communities, and society.

2.3.1 Social connectedness of older people

Much can be learnt from studies focusing on the perceptions and experiences of social connectedness among older people in the home, community, and society as a whole (Cloutier-Fisher et al. 2011; Forsman et al. 2013; Walsh et al. 2017), with many researchers believing that contact is central to the wellbeing of older adults (Gabriel and Bowling 2004; Wilhelmson et al. 2005; Dickinson and Gregor 2006; O'Rouke and Sidani 2017). Victor et al. (2009) suggest that social isolation and connectedness consist of 'multiple realities'. Waycott et al. (2019) recommend that older people's experiences of social connectedness could be characterised by three interrelated dimensions – personal relationships, community connections, and societal engagement. In the following section, I explore the Waycott et al. (2019) dimensions of social connectedness, a framework for informing the design of technology-based social programmes. This study aligns with Waycott et al.'s thinking on how these three interrelated dimensions could

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[17] Social connectedness is the opposite of social isolation where the person feels connected to others or a community or neighbours (Waycott et al. 2019).

characterise older people’s experiences of social connectedness. These dimensions were used to assess participants’ needs around connection and to create a list of their ‘gold stars’, as explained in the cases in Chapter Six. Additionally, this study will examine the interrelated dimensions of connection — connecting to people, community, and society — in Chapters Six and Seven.

2.3.1.1 Personal relationships

The first of these examines how personal relationships influence the lived experience of social connectedness (Waycott et al. 2019). Close personal bonds are significant, but their effect on social connectedness can vary, with social isolation often seen as a lack of social support (De Jong, Gierveld and Tilburg 2006; Waycott et al. 2019). Different perspectives on social connectedness suggest that it is the quality and types of relationships that positively affect loneliness and social isolation, rather than the number of relationships (Litwin 2011). An additional aspect of meaningful personal relationships is feeling valued, which, for some, can be more crucial than feeling safe, encompassing reciprocal communication and contributing to family by engaging with and supporting younger generations (Lester et al. 2012). Contributing and feeling valued can be more significant than feeling supported for some individuals, and this dimension ‘highlights the importance of interventions that affirm and value personal contributions to relationship building’ (Waycott et al. 2019: 70).

2.3.1.2 Community connections

Community connection is the second dimension, where people have opportunities to engage in meaningful activities within the community, such as a church or sports clubs (Forsman et al. 2013). Connections with a neighbourhood boost feelings of belonging (Cloutier-Fisher et al. 2011; De Donder et al. 2012; Forsman et al. 2013; Waycott et al. 2019). Some people find reassurance in knowing their neighbours, as familiar neighbourhoods offer a stable foundation for daily life (Forsman et al. 2013). Therefore, relocation, such as moving to a care home, may cause feelings of social isolation for some older people (Weiss 1973). According to Waycott et al. (2019: 70), ‘being disconnected from the local community and group-based activities can lead to a loss of a sense of belonging’. A sense of belonging is crucial for understanding older people’s experiences of isolation. Interventions that promote this sense within groups can be developed by replicating community connections in neighbourhood settings (Waycott et al. 2019).

2.3.1.3 Societal engagement

Societal engagement is the third dimension, referring to a person's involvement with society. Societal engagement is defined as 'to encompass not only a person's access to information and resources, but also their ability to contribute – even in small ways – to society' (Waycott et al. 2019: 71). When engaged in society, a person can form personal relationships but have limited community connections, yet still feel connected through participating in activities such as political issues or events. Therefore, societal engagement can relate to participation with activities, ideas, and information, not just with other people (Waycott et al. 2019). Television can serve as a link to the outside world, reportedly common among older people, as watching the news or sermons instead of attending in person can be an effective form of connection (Van der Goot et al. 2012; Queen et al. 2014). Digital exclusion[18] can threaten engagement at the societal level, with many services available only online (Siren and Knudsen 2017) or with people lacking the means to access or use digital technology (Francis et al. 2019).

2.3.2 Social capital

Social capital offers another useful perspective when examining the wellbeing of older individuals through social connectedness (Lu et al. 2023). It is described as 'features of social organisation such as networks, norms and social trust that facilitate coordination and cooperation for mutual benefit' (Putman 1995: 67). Previous research indicates that social capital is associated with higher levels of physical and mental health in older adults (Coll-Planas et al. 2017; Rogers et al. 2019). The existing literature conceptualises social capital from two main viewpoints: the social cohesion perspective and the social network perspective. The social cohesion view sees social capital as a resource where individuals benefit from belonging to social groups (Putman 1995). The social network perspective considers social capital as resources embedded within a person's network, such as information channels (Lu et al. 2023). Bonding social capital, a sub-dimension of

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[18] 'Not having the ability or resources to access digital information' (Waycott et al. 2019: 71).

social capital, is particularly relevant to this study, encompassing close relationships with family or friends within a tight social circle, thus providing socio-emotional resources (Putnam 2000). Another sub-dimension is bridging social capital, which involves larger, less intimate networks that are more formal and weaker connections (Bourdieu 1986; Bourdieu and Wacquant 1992). Ideally, an individual's social capital will contain the necessary socio-economic and socio-emotional resources to enhance wellbeing (Simons et al. 2023).

Active social engagement (such as maintaining a strong social network and social support) and residing in a neighbourhood characterised by high levels of social cohesion have been linked to a reduced risk of depression, anxiety, and functional disability among older adults (Ehsan et al. 2019; Lu et al. 2023). According to Simons et al. (2023), current research demonstrates that bonding social capital is a vital element for positive ageing and the wellbeing of older individuals. The Socioemotional Selectivity Theory, as discussed earlier in this chapter, explains this by noting that people become more selective as their lifespan shortens, focusing on social interactions and activities that generate positive experiences (Carstensen 1992). Consequently, individuals tend to form close social relationships with key people who contribute to positive experiences (Carstensen et al. 2003). As stated by Simons et al. (2023: 148), bonding social capital is positively associated with all aspects of wellbeing, 'as it provides positive socioemotional relationships that help experience positive emotions and contain resources for autonomy and self-realisation'. Moreover, bonding social capital supports a sense of belonging and coherence (Putnam 2000). This is particularly relevant to my research because social capital offers another perspective for understanding connection, especially in relation to societal engagement. Social capital is woven into the themes explored in Chapter Seven.

2.3.3 Theory of the connection between people, community and society

Interest in the relationship between people and community is not new; this connection was studied by two pioneering theorists, namely Émile Durkheim and Robert Nisbet. Durkheim is recognised as one of the foundational figures in sociology, especially for his exploration of the link between society and individual behaviour. Durkheim argued that society is held together by a collective consciousness, which comprises shared beliefs, values, and norms that unite individuals and foster social cohesion (Durkheim 1933). This collective consciousness forms the basis of what he termed ‘social integration’, crucial for maintaining society’s moral fabric. One of Durkheim’s most important contributions is his concept of social solidarity, which he divided into two types: mechanical and organic solidarity. Mechanical solidarity describes pre-industrial societies where individuals share similar responsibilities and beliefs, creating a strong collective identity. Conversely, organic solidarity develops in more complex, industrial societies where individuals perform specialised roles that, despite differences, contribute to the society's overall functioning. This shift demonstrates how social changes influence individual behaviour and societal norms. Durkheim believed that the organisation of society and the relationships within it are fundamentally shaped by shared beliefs that foster social cohesion and order. His ideas of collective consciousness, social solidarity, and the functional role of religion provide a comprehensive framework for analysing the interaction between individual actions and societal norms (Durkheim 1915). This highlights the interdependence between society and its people, whereby individuals feel they can contribute to improving the lives of others (Durkheim 1933). Durkheim’s theory connects with the Five Ways to Wellbeing framework, where people are encouraged to dedicate their time to others.

Nisbet, a distinguished sociologist, is recognised for his critiques of modernity and his focus on the significance of community and social structures in shaping individual behaviour and societal dynamics (Nisbet 1953). His work weaves together themes related to tradition, social change, and the influence of historical revolutions on social cohesion. Nisbet described the concept of ‘community’ as a fundamental unit of analysis in sociology, considering it essential for understanding social relationships and identity formation. He regarded community as a vital force countering the challenges caused by the fragmentation of modern society, asserting that social bonds rooted in tradition and shared values are key to social stability and personal fulfilment (Chernilo 2015). This view is reflected in his call for a return to more communal forms of social organisation, which he argued were declining due to modernisation and the dominance of individualism (Chernilo 2015). Nisbet believed that humans’ desire for community[19] was one of the most powerful needs of human nature, and that when the modern world eroded traditional community, people would seek community elsewhere, such as the government (Nisbet 1953). Nisbet emphasised the importance of community and tradition in counteracting the isolating effects of modernity. His critique of the revolution’s impact on social cohesion highlights the need for a grounded understanding of how social institutions mould identity and behaviour. His

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[19] Stated as family, the church, the neighbourhood, and civic associations.

support for a sociology that is historically informed and contextually aware remains influential in contemporary sociological debate.

2.4 Care homes

As detailed earlier in this chapter, the wider environment significantly influences wellbeing. For some individuals, growing old at home surrounded by family, friends, and community is possible due to a broad support network. An older person living in their own home and community comfortably, independently, and safely, regardless of age, income, or capacity, is known as a person ageing in place (Wiles et al. 2012). For others, ageing in place is not feasible due to a lack of family and community support, unmet care needs, or unsuitable housing, which leads to a move to a care facility or supported living (Golant 2008; United Nations Department of Economic and Social Affairs 2010; Morley 2012). As the ageing population grows and more older adults require higher levels of support, there is an increase in supported housing. Various types of accommodation offer a mix of services and support, such as care homes, assisted living units, retirement villages, residential care, and nursing homes (Tinker et al. 2013). This study focuses on care homes.

A ‘care home’ is a place where people receive care and support while living together in a community with other residents (Emmer De Albuquerque Green et al. 2021). It is both a home and a community, with each bedroom serving as a resident’s personal space, and collectively, these spaces form a community. A community is a group united by shared interests, connected, and characterised by a sense of ‘togetherness’. It is part of human nature to want to belong to a community (Durkheim 1915; De Donder et al. 2012). The culture within the care home is just as important as the physical environment because it influences how staff interact with residents and how they work together. The community inside the care home is a hive of activity, with some residents needing help with daily tasks, while others are more independent. The larger the care home, the more staff are needed, including carers, social workers, cleaners, kitchen staff, hairdressers, beauticians, and visitors. There are approximately 490,326 care home residents in the United Kingdom (Nocivelli et al. 2023). As the needs of older adults grow more complex, it is expected that the number of people requiring care home placements will increase by 71,125 by 2025 (Kingston et al. 2017; Barker et al. 2021).

Moving into a care home from one’s house is a significant life change, and for most people, it is the final move. It usually occurs due to a decline in physical and mental health or the loss of a partner, which can often carry negative connotations. The typical care home resident is frail and has multiple health conditions (Dening 2011; Gordon et al. 2014). According to the National Institute for Health Research (2017), the average care home resident is female with a life expectancy of 12–30 months after moving into the care home.

2.4.1 Wellbeing at a time of vulnerability

Unfortunately, for older individuals living in care homes, achieving a high level of wellbeing can be difficult due to limited mobility, poor mental health, and being geographically distant from their families and local communities (Brooker 2011). However, with proper planning and support, moving into a care home can bring benefits and, in some cases, improve the quality of life for older residents (O’May 2007). As mentioned earlier in this chapter, ageing brings many changes, and therefore, wellbeing must adapt to these changes. Not only do physical transformations happen in the body, but perceptions also change over time as older adults prioritise autonomy, identity, relationships, security, enjoyment, and the potential for personal growth (Bowling and Dieppe 2005; Grewal et al. 2006). The wish to improve wellbeing can persist throughout life; even during periods of fragility, simple actions can help to enrich life. Galvin and Todres (2011, 2013, 2018) developed the Dwelling Mobility Lattice, which outlines straightforward ways to improve the lives of those who are less mentally and physically able; caregivers can perform some of these actions to assist them in achieving a higher level of wellbeing. To provide the reader with an idea of the types of actions, I have included a list of 18 actions in the Dwelling Mobility Lattice in APPENDIX 1.

2.4.2 Connection at a time of vulnerability

According to other studies, when some people move into care homes, they find themselves disconnected from their communities, friends, or family, ultimately becoming socially excluded and experiencing feelings of isolation or loneliness (Dening and Milne 2008; Dening 2011; Age UK

2014). However, for others, the move can help them thrive in ways that were not possible in their original homes and communities, where they reconnect with others, thus enjoying making friends and being part of a community in a care home (Singer 2011, World Health Organization 2015). According to Hillcoat-Nalletamby and Ogg (2014: 1771), for some people, the move into a care home can be driven by ‘a desire to “attach” to people, rather than to remain in situ to preserve an attachment to place’.

Milne and Dening (2011) emphasise that people living in care homes need to be reconnected with their communities and services, not separated from them, as they explain below:

> Residents of care homes form an almost invisible population since they are often physically frail and do not venture far beyond the walls of the home, or perhaps because many of them have dementia and lack the capacity to do (some) things for themselves. They also tend to exist outside the boundaries of ‘ordinary society’ and community and are ‘off the radar’ of the majority of initiatives that aim to engage citizens or address marginalization. If a yard stick of active citizenship is having a front door opening onto the street, then care homes are excluded in the most fundamental way. (Milne and Dening 2011: 2)

This study concentrates on reconnecting care home residents, challenging the idea that they live outside society's boundaries.

2.4.3 Critical theory of care homes

The critical theory of care homes explores the structural, social, and political aspects of the care home environment, emphasising issues of power, inequality, and social justice. This theory is based on the understanding that care homes are not just facilities for ageing individuals; they are social institutions deeply rooted in wider societal structures that influence care practices and experiences. It was especially important during the COVID-19 pandemic, which revealed systemic problems within care homes and their impact on residents’ quality of life.

At the heart of critical theory is the analysis of power relations within care homes, involving residents, staff, and management. Research shows that elderly residents' experiences often reflect systemic inequalities and exclusion. It critiques how care providers and institutional policies can reinforce these inequalities, creating environments where residents feel devalued and disempowered. This perspective advocates for the rights and dignity of residents, calling for fair access to care while challenging systemic inequalities in service provision. The theory also explores how cultural attitudes towards ageing and disability influence the care provided in these settings. It promotes a critical examination of how societal values shape the treatment of residents.

Care homes are often viewed as institutions that can reinforce dependency and exert control over residents. They are portrayed as places where individuals lose their choice, independence, and autonomy (Goffman 1961; Townsend 2006), which contradicts the principles of wellbeing and connection. Critical theory calls for a re-evaluation of institutional practices and norms, advocating for more person-centred approaches (Brownie and Nancarrow 2013). It proposes that fostering a culture of respect, inclusion, and person-centred care not only improves residents' experiences but also challenges societal attitudes that often diminish the value of ageing individuals (Wilson et al. 2009). The need for person-centred care is detailed further in the care approaches section that follows. Additionally, Chapter Three concentrates on implementing a person-centred care model as a theoretical framework for this study.

The funding models and economic pressures faced by care homes can affect the quality of care. Critical theory questions the market-driven approaches to care and their effects on residents and staff. It advocates for policy reforms that promote better conditions in care homes, including enhanced staffing ratios, training, and resources.

Human rights and ethical dilemmas in care provision, such as balancing safety and autonomy, are central topics in critical theory discussions. Human rights can be defined through the ‘FREDA principles’ – freedom, respect, equality, dignity, and autonomy – which can be applied to incorporate human rights into care practice (Emmer De Albuquerque Green et al. 2021). Recently, there has been a surge in the human rights discourse questioning the appropriateness of care homes as spaces of care (Herring 2017; Emmer De Albuquerque Green et al. 2021), especially following high-profile media reports of neglect and abuse of residents by staff in care homes (Manthorpe and Samsi 2016). Care homes came under intense scrutiny during the COVID-19 pandemic, when high numbers of residents with underlying health conditions succumbed to the virus (Office for National Statistics 2022).

In summary, the critical theory of care homes explores the interaction of social structures, power relations, and caregiving practices that influence the experiences of elderly residents. It supports systemic reforms and better quality of care by recognising relational dynamics, tackling social inequalities, and advocating for inclusive policies that improve the quality of life for vulnerable populations in these institutions.

2.4.4 Care approaches

Historically, places of care have focused on societal goals rather than the needs of the individuals living in care (Gawande 2014). When examining the complex pathologies of care home residents, it becomes clear how, in the past, care approaches such as biomedical approaches, focused purely on technical aspects like physical care and ignored influences from environmental, psychological, and social domains. Over time, criticisms of these biomedical approaches in care homes grew louder, prompting calls for a re-evaluation of the care home culture (Rahman and Schnelle 2008; Dupuis et al. 2012).

In the 1990s, there was a philosophical shift from the more traditional biomedical care approach to a more humanistic care approach centred on the resident and promoting living and thriving (Nolan et al. 2004; Dupuis et al. 2012). Dupuis et al. (2012: 221) state that this philosophical shift emphasised the development of relationships between residents, staff, and family members with 'a more respect-oriented focus and decision-making being initiated at the ground level'. According to other researchers, this shift aimed to restore the interactive nature of both working and living in a care home, moving away from the biomedical approaches, which focused on technical elements and less on communicative or emotional aspects (Dupuis et al. 2012; Brownie and Nancarrow 2013). Following this shift, alternative approaches emerged, such as person-centred,[20] relationship-centred,[21] and partnership approaches[22] (Goodman and Davies 2011; Dupuis et al. 2012). The person-centred approach will be covered in detail in Chapter Three.

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[20] The person-centred approach places the individual at the heart of the model where they maintain their identity as central to decisions around care (McCormack et al. 2015).

[21] The relationship-centred approach recognises that the quality of care is dependent on the relationships of those involved – carers, staff and family (Dupuis et al. 2012).

[22] Building onto person-centred and relationship-centred, this approach focuses on partnerships and synergistic relationships (Dupuis et al. 2012).

2.5 Technology, ageing and wellbeing

Digital technology is the focus of this study. It exists in many forms, such as computers, personal interactive devices (mobile phones, Kindles, and handheld tablets), m-health, telecare, telehealth, telemedicine, assistive technology, smart home technology, virtual reality, gaming, and various software applications. More specifically, this study concentrates on technology for older people, where age and ageing are increasingly linked across safety, health, housing, mobility, communication, and social functioning, as reported by others in the field (Mynatt and Rogers 2001; Selwyn 2004; Warschauer 2004; Blaschke et al. 2009; Beard et al. 2012; Czaja et al. 2012; Connelly et al. 2014; Chen and Schulz 2016; Khosravi et al. 2016; Morris and Mueller 2016; Peek et al. 2016; Cahill et al. 2018; Halicka 2019; Juul et al. 2019; Ramprasad et al. 2019).

Two types of technology address the needs of older people; the first includes non-age-specific technology that can be integrated into an older person’s daily routine, such as a handheld tablet or mobile phone (Bronswijk 2009). The second type is designed specifically for older individuals, such as alarm pendants or care robots. This field is known as Gerontechnology (Peine et al. 2021). Peine et al. (2021) explain that with the growth of digital technologies and their capacity to monitor individuals, new questions are emerging regarding ageing and technology:

> There is still a widespread belief among the public, academy and industry that ageing and technology are separate and somewhat alien domains, so that age and ageing can figure neatly as an untapped potential in the techno-solutionist dreams and fears of technology development and innovation policy. (Peine et al. 2021: 2)

This study examines the connection element of wellbeing, aiming to identify a technology that serves as a tool for residents in care homes to connect with people, their community, and society, thereby potentially reduce feelings of loneliness. The technology field is constantly evolving, characterised by rapid developments in innovation and research. It is a dynamic environment. As noted in the introduction, the fieldwork and write-up of this thesis spanned a decade from 2014 to 2024, during which much of the existing literature has changed. This section of the literature review presents the most recent data in the technology sector, some of which was not yet available at the start of the fieldwork. In some cases, research published more recently (after the fieldwork was completed and during the write-up) further supports the rationale for conducting this study in 2014 and highlights the existing knowledge gap. This point will be elaborated on later when the gap in knowledge for this study is detailed.

Neves and Vetere (2019: 2) state that ‘emerging technologies, especially those that are mobile and wearable, can have a critical role in meeting the needs and aspirations of a growing number of older adults (aged 65+) and oldest old people (aged 80+). Such technologies can be used to foste social connectedness and participation, civic inclusion, and access to public services’. Numerous researchers contribute to the expanding body of literature on older adults utilising digital technologies to enhance connection and reduce isolation (Hope et al. 2014; Khosravi et al. 2016; Clayton 2018; Poscia et al. 2018; Neves et al. 2019; Francis et al. 2019; Fakoya et al. 2020; Liddle et al. 2021; Sen et al. 2022; Wright et al. 2023; Petersen et al. 2023). Technologies aimed at this age group should be designed to accommodate the diverse motivations, needs, lifestyles, and preferences of older people, and they must also be adaptable to address physical and cognitive limitations and disabilities, as recommended by others (Bagnall et al. 2006; Rogers and Mitzner 2017; Neves and Mead 2021). Following a review of the literature, I selected ICTs based on their suitability for the study. ICTs are accessible technologies that are reasonably priced, widely available in stores, and adaptable with many features enabling customised use through existing applications, as reported by others (Hawkley et al. 2006; McDonnell and Grimson 2012; Winstead et al. 2013; Chen and Schulz 2016; Hill 2016; Delello and McWhorter 2017; Fang et al. 2018).

2.5.1 The COVID-19 pandemic

In 2020, the COVID-19 pandemic transformed the way society interacted, with people advised to stay at home and avoid face-to-face contact and community engagement. Older adults and individuals with pre-existing conditions were at higher risk of contracting COVID-19. Following the global lockdowns imposed to reduce the spread of COVID-19, many studies reported that ICT usage increased over this period, enabling older people to connect with others (including intergenerational contact), access services (such as attending weddings virtually), participate in community groups (such as church services), and engage in socialisation and healthcare services (Brooke and Jackson 2020; Pachana et al. 2020). Numerous studies indicate that providing opportunities for connection during such challenging times ultimately improved overall wellbeing (Alharbi et al. 2021; Veiga-Seijo et al. 2021; Cone and Lee 2023; Drazich et al. 2023; Wang et al. 2024). Balki et al. (2023: 15) observe that ‘the pandemic altered the digital profiles of older people by increasing and by changing the usage of DCT [digital communication technology]. These changes were dominantly driven by communication maintenance, information seeking, and access to services such as shopping and healthcare. The desire to communicate and access information stemmed from the need to reduce social isolation and loneliness'. Wright et al. (2023) note that COVID-19 caused an exponential rise in digitalisation, with technology regarded as a lifeline for many, allowing remote communication and access to services (Sixsmith 2022). This evidence further supports the motivation behind this study, conceived in 2013 before the pandemic, aimed at using ICT to enhance connection.

2.5.2 The handheld tablet

A handful of technologies fall under the ICT banner, but ultimately, the handheld tablet was the preferred device among many researchers and was therefore chosen as the technological intervention for this study.

1. The touch screen is more user-friendly than the standard computer keyboard, as reported by the following studies: Haikio et al. 2007; McLaughlin et al. 2009; Wherton and Prendergast 2009; McDonnell 2012; Waycott et al. 2012; Vaportzis et al. 2017b; Coghlan et al. 2021; Neves and Mead 2021; Hussain et al. 2024.
2. The interface was simpler with no wired infrastructure, as reported by the following studies: Waycott et al. 2012; Jones et al. 2013; Vaportzis et al. 2017a, 2018.
3. It is highly interactive with fewer navigation steps, as reported by the following studies: Findlater et al. 2013; Tsai et al. 2015; Tsai et al. 2017; Coghlan et al. 2021.
4. It is less daunting because of its portability, as reported by the following studies: Barnard et al. 2013; Tsai et al. 2017.
5. It is less anxiety-provoking than computers, according to: Vaportzis et al. 2017a.

The handheld tablet is a non-age-specific technology that can be customised to meet the needs of older people. Customisation may involve hardware functionality or suitable applications. According to Juul et al. (2019: 9), customisation is especially relevant for those living in care homes, where handheld tablets make 'it possible to personalise the activities to meet the needs of a specific resident [in a care home] or group of residents with shared interests'.

2.5.3 A Critical discussion of technology

So far, technology has been portrayed positively, with people using it to enhance their lives, save time, or simplify tasks (Matthewman 2011). However, this is not always true due to conflicting values, and in some cases, technology can be a mixed blessing, as noted by others (Neves et al. 2023; Clayton et al. 2024). According to Feenberg (2017: 635), 'critical theory of technology is concerned with the threat to human agency posed by the technocratic system that dominates modern societies'. Matthewman (2011) describes three broad schools of thought theorising technology: anti-humanist (or technological determinism), humanist (or social constructivism), and posthumanist. The anti-humanist school sees technology as the main focus and considers people as secondary. For humanists, the roles are reversed, with people as the main focus and technology as secondary. For posthumanists, people are decentralised, with agency shared between people and technology, leading to a 'co-shaping' (collective production and interaction).

Drawing on the field of science and technology studies (STS), the critical theory of technology identifies the inherent bias in effective solutions to technical and social problems (Feenberg 2017). Additionally, critical theory of technology incorporates the assumptions proposed by the social constructivist or humanist tradition, which includes underdetermination, closure and interpretive flexibility, and the notion of actors, more specifically, the concepts drawn from Actor Network Theory (ANT),[23] such as the concepts of programme, delegation, and co-production (Feenberg 2017). Feenberg (2017: 641) explains further that 'critical theory of technology draws on social constructivism for an alternative to technological determinism and on ANT for an understanding of networks of person and things'. Problems and potentials of technologies, overlooked by experts bound by interests, are only revealed once they are circulated widely (Oudshoorn and Pinch 2003; Neves et al. 2023). Therefore, ANT adopts the concept of co-production of technology and society. STS shows that technology and people can only understand one another when they inhabit the same spaces or worlds, and bring each other into existence (Sismondo 2010, Peine and Neven 2021). This means that ordinary people should be involved in technical decisions, based on everyday experience, rather than decisions made by others through mastery of the technical discipline.

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[23] ANT highlights the interdependence of the technical world and human actors (Feenberg 2017).

Looking specifically at the theory of combining ageing and technology, the vast literature on these combined areas has remained largely atheoretical (Sixsmith 2013; Schulz et al. 2015; Peine and Neven 2021). Therefore, in response, Peine and Neven (2019; 2021) combined insights from ageing studies and STS to develop the concept of co-constitution of ageing and technology (CAT). The CAT model was developed to highlight several fundamental ideas that straddle the disciplinary boundaries between ageing studies and STS:

> Following the work of French philosopher Bruno Latour (1993), the current situation is characterised by a 'Latourian divide' (Peine and Neven 2021): on one side of the divide are the natural scientists, engineers and designers who are involved in the research, design and production of technologies. While they are involved – to various degrees – in researching and interacting with the potential end user, they are largely detached from the work that is going on at the other side of the divide. At this side, social scientists work on understanding the intricacies of the life-world of technology, and the processes through which technology comes about, has not featured prominently on their agenda. While technology gains importance, the theoretical understanding of ageing-technology relations has been hampered by this Latourian divide. (Peine and Neven 2021: 2846)

According to Hess (2007), conflict over how to configure technology to ensure it serves various conceptions and interests of a good life gives rise to 'object conflicts', in which users are seen as workers building the technology or as victims using it with unanticipated side effects. While technology has been referred to as a prosthesis —an extension of our bodies, senses, and physical forces — by McLuhan (2005), one must be mindful of issues such as use, ownership, access, control, and unintended consequences (Matthewman 2011; Neves et al. 2023). Technology can cross well-established boundaries, becoming more progressive:

> On the one hand, the technosciences bring science and technology together in powerful combinations, crossing well-established boundaries between the true and the useful. On the other hand, corresponding to the emergence of technoscience and its increasingly dangerous side effects, government regulation crosses the lines between state and economy, forcing capitalist enterprise to work under a widening range of constraints. The new relationship must develop its own institutions for translating social knowledge about technology's harmful effects of overlooked potentialities into technical specifications for better designs. Such translation processes will become routine in the long term as public involvement increases, closing the circle in which technology modifies society while itself being modified by society. (Feenberg 2017: 649)

Until the technology is used, one cannot establish whether it is a help or a hindrance. While the introduction of devices is shown to promote social connection and enhance communication, such devices also have the potential to reduce human face-to-face contact, which in turn perpetuates loneliness, making loneliness a by-product of technology as reported by others (Winstead et al. 2013; Yuan et al. 2016; House of Lords 2021). Barbosa Neves et al. (2023: 166) report on these consequences:

> Although our technology-based projects had mainly positive outcomes, intersecting them were negative unintended consequences, from increased awareness of loneliness and health issues to family and social tensions. These consequences represented failures and limitations, entailing scripts and praxis that require reflection.

Research reveals that dilemmas may arise when technology is used, as it can interfere with values such as autonomy, dignity, and safety (Zwijsen et al. 2011; Landau and Werner 2012; Jacobs et al. 2017a). Other studies report that ICT overuse can have a negative impact on mental health, resulting in decreased emotional connection, heightened stress and lowered self-esteem (Scott et al. 2017; Köttl et al. 2022). In the context of a caring environment, technology cannot address unplanned interactions, emotions, care, and attention, and cannot replace human contact (Sparrow and Sparrow 2006; Jacobs et al. 2017a). Mort et al. (2015) report that technology is therefore not a magic pill!

The literature reports feelings of anger and fear among older people who believe that technology is taking over everyone’s lives (Yuan et al. 2016; Juul et al. 2019). Marston et al. (2019) concur and go a step further, reporting that some people believe technology is having a negative impact on society. Both Vaportzis et al. (2017a) and Hill et al. (2015) report that older people have expressed concern regarding the underdevelopment of social skills and poor social interaction for future generations. Negative feelings, such as technophobia and technostress, resulting from engaging with technology, are reported. Technophobia is the fear of using technology (Osiceanu 2015; Nimrod 2017; Di Giacomo et al. 2019), and technostress is the stress caused by engaging with technology (Tarafdar et al. 2007; Ayyagari et al. 2011; Nimrod 2017; Neves et al. 2023; Clayton et al. 2024).

The digital divide[24] or digital exclusion is another problem, where people are unable to access technology due to social or economic inequalities, as reported by others (Feenberg 2008; Anderson and Perrin 2017; Lythreatis et al. 2022; Vercruyssen et al. 2023) or feel alienated from using technology (Selwyn 2004; Francis et al. 2019). According to Lythreatis et al. (2022), low digital literacy is a consequence of economic and social inequalities, resulting in an inability or limited ability to access and use digital technologies effectively. Neves et al. (2017) found that

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[24] Digital divide – the gulf between those people who have access to computers and the internet compared to those who do not.

older people were less likely to adopt technologies (for example, the internet), engage in fewer online activities, and were less likely to continue using technologies, with critical factors for non-use or limited use being functional issues, accessibility, and a lack of digital literacy. Neves et al. (2017) explain that these issues are even more limiting for frail people living in care homes. Peine and Neven (2019, 2021) suggest that societal age stereotypes may further reinforce this message of dependency and ill health for older people, which, according to Köttl et al. (2022), further perpetuates the ageism and self-ageism cycle. Ageism around technology use is still very much present in society today, according to Curryer and Cook (2021). However, Birkland (2019) argues that, as a technology-focused society, we must accept that choosing not to adopt technology is a valid response and that older people have the right to determine their level of engagement. Peine (2019) reiterates this point, stating that older users are not passive recipients of technology.

To date, extensive research has focused on narrowing the digital divide and identifying interventions to address this age-related divide (Milfont et al. 2010; Nimrod 2017). However, in many cases, there are salient questions related to the ‘application of underlying theory, end user need, expected benefits, user acceptability, and ethical issues are insufficiently explored’ (Cahill et al. 2018: 2). With the short comings of existing technology highlighted above, many researchers have called for the need of co-design with older people (Haase et al. 2021) or ‘co-shaping’ as the post humanists refer to it. This study aligns with the humanist and post-humanist schools of thought, with the human, not technology, taking centre stage, but keeping in mind the influence of the environment as presented in the wellbeing section. In addition, this study aligns with the thinking of Peine and Neven (2019, 2021), in which product designers and older users meet on a level playing field to develop products that are fit for purpose.

With this in mind, I turned towards the theories behind technology adoption and acceptance to get a better understanding of what drives people’s relationship with technology.

2.5.4 Technology adoption and acceptance models

To better understand what drives technology usage, technology acceptance, and adoption must be understood, as well as the main theories behind these. Technology adoption[25] was originally developed to explain the implementation of technology (hardware and software) in an organisation to increase productivity, improve processing speed, gain a competitive advantage, and make information readily available (Davis 1989; Khan and Woosley 2011). The underlying concept in technology acceptance[26] is based on the diffusion and adoption of innovation perceptions of a person on their adoption behaviour (Davis 1989), and the pro-innovation biases[27]. According to Venkatesh and Davis (2000), technology acceptance predicts technology use. These concepts have been studied from different perspectives, resulting in many models and frameworks being developed to describe user adoption (or rejection) and the factors that impact upon user acceptance (Melenhorst et al. 2001; Czaja et al. 2006; Mitzner et al. 2010; Chen and Chan 2011; Barnard et al. 2013; Chen and Chan 2013; Heinz et al. 2013; Peek et al. 2014; Taherdoost 2018; Taherdoost 2019). While beyond the scope of this thesis, it is important to present the best-known theories to demonstrate the breadth of the field to the reader.

Many technology acceptance models can be traced back to one influential theory in the social and cognitive psychology fields, the Theory of Reasoned Action (TRA)[28] (Abraham et al. 2009). The TRA was developed by Fishbein and Ajzen in 1975 and is one of the most widely used theories of technology adoption, with many subsequent theories based on it (Fishbein and Ajzen 1975). It proposes that attitude influences a person's behaviour to adopt technology (Khan and Woosley

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[25] Adoption is a process, 'starting with the user embracing the technology and making full use of it. Someone who has embraced a technology is likely to replace the item if it breaks, find innovative uses for it, and cannot contemplate life without it.' (Renaud and van Biljon 2008: 211)

[26] Acceptance is the attitude towards technology, and it is influenced by various factors: 'A user who has purchased a new technology item has not yet adopted it – there are other stages beyond simple purchasing, and this is where acceptance plays an important role. If the user buys an item and then does not accept it, it is unlikely that full adoption will occur.' (Renaud and van Biljon 2008: 211)

[27] The assumption that the technology will benefit the individual.

[28] Human behaviour is predicted and explained through various cognitive components, namely attitudes, social norms and intentions, and the theory stipulates that human behaviour should be rational, systematic and volitional (Khan and Woosley 2011). The three boundaries that test and evaluate TRA are volitional control, intention stability over time and measurement of intention (in time, context, action and specificity) (Taherdoost 2018). The TRA surveys were criticised for not addressing the roles of habit, cognitive deliberation, moral factors and misunderstandings of devices or processes.

2011). Ajzen extended the TRA further and proposed the Theory of Planned Behaviour (TPB)[29] (Ajzen 1991). Both models assume that people make logical, reasoned decisions to get involved in specific behaviours by assessing the information available to them at the time.

Davis (1989) applied the TRA to information technology and developed the Technology Acceptance Model (TAM)[30] (Davis 1989; Peek et al. 2016). This model explains that when people are presented with a new technology, several factors influence their decision regarding when and how they use it (Francis et al. 2019). A criticism of both TAM and TRA is that, although they have strong behavioural elements, they assume that when a person has the intention to act, they are free to act without limitation. This is not always true in the real world, where many limitations on freedom to act exist, such as social inequality, limited access to hardware, or limited access to training (Neves et al. 2018; Bagozzi et al. 1992).

The Diffusion of Innovations Theory (DOI) proposed by Rogers seeks to understand how ideas are integrated into our society and how they shape the processes of social and technical change (Rogers 1962). This theory is another commonly used one behind technology acceptance. Birkland (2019) disagreed with this theory in the context of older people, postulating that they are less likely to adopt technology unless they see clear benefits, and, in response, developed the ICT Typology. Unified Theory of Acceptance and Use of Technology (UTAUT)[31] is an integrative model

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[29] TPB builds on the TRA and includes an additional factor as a new variable: perceived behavioural control, which is determined by the availability and perceived significance of resources, skills and opportunities in achieving the outcome. It suggests that 'the individual's attitude influences not only the behavioural intentions towards the behaviour and the norms but also the individual's perception of control behaviour' (Khan and Woosley 2011: 710). Two problems with the TPB model are that a person's attitude will not be relevant if they cannot access the ICT, and that the framework influences the degree of the person's voluntariness if they choose whether to use the technology (Chang and Cheung 2001; Taherdoost et al. 2011). A further development was the Theory of Interpersonal Behaviour (TIB), which not only combines the TRA and TPB but also includes habits, facilitating conditions and affect. This model clarifies the complexity of human behaviour, which is affected by emotional and social factors (Chang and Cheung 2001). TIB has been criticised for complexity and lack of parsimony in comparison to both the TRA and TPB (Taherdoost 2018).

[30] TAM replaces TRA's attitude measures with two new technology acceptance measures: ease of use and usefulness called perceived usefulness (PU) and perceived ease-of-use (PEOU). TAM was extended by Venkatesh and Davis (2000) to create TAM2 to explain the perceived usefulness and intentions of usage in terms of social influence (voluntariness, subjective norms and image) and cognitive instrumental processes (output quality, result demonstrability, job relevance and perceived ease of use) to improve the predictive power of perceived usefulness. Two further examples of extensions of TAM are Igbaria's Model (Igbaria et al. 1994) and the Motivational Model (Davis et al. 1992).

[31] The UTAUT identifies four antecedents of information systems technology, by tailoring the fourteen initial constructs from the theories. The significant constructs are effort expectancy, performance expectancy, social influence and facilitating conditions. The four significant moderating variables are gender, experience, age and voluntariness of use. UTAUT was expanded by Bouten (2008) to create the compatibility UTAUT (C-UTAUT), which included compatibility beliefs by Karahanna, Agarwal and Angst (2006) to improve the explanatory power. The C-UTAUT aims to provide a more thorough understanding of the cognitive phenomena of the UTAUT by identifying and testing novel boundary conditions.

that was created by Venkatesh et al. (2003), integrating eight technology acceptance models, namely the TRA, TPB, TAM, Combination TPB and TAM, Motivational Model, Personal Computer (PC) Utilisation, DOI and Social Cognitive Theory (Barnard et al. 2013). According to Peek et al. (2014: 237), the UTAUT is ‘capable of explaining up to 70 percent of intention to use at the expense of parsimony by adding two additional variables (social influence and facilitating conditions) and four moderating factors (gender, age, experience and voluntariness)’.

A lesser-known theory, but one highly relevant to this study, is the Senior Technology Acceptance and Adoption Model (STAM)[32] created by Renaud and van Biljon (2008), which consists of several stages to explain an older adult’s technology acceptance. These include objectification, incorporation, and conversion/non-conversion (Tsai et al. 2017). Renaud and van Biljon (2008: 212) explain that ‘acceptance and rejection is predicted by ease of learning and use, and actual use, with the former more strongly influencing acceptance’. This model, like UTAUT, does not include attitude as the determining factor.

The technology acceptance research field is dominated by TAM and UTUAT (Peek et al. 2014). Many of the above theories have limitations and criticisms, which are too extensive to list. For example, TAM and UTAUT are criticised for failing to account for the fact that acceptance of technology can fluctuate over time (Liao et al. 2009; Peek et al. 2014), which can be due to changes in physical and mental health, financial factors, and motivation (Birkland 2019). Neves and Mead (2021: 891) argue that a combined framework is needed ‘to understand learning, use and adoption of new technologies in later life, we require a combined framework of social contexts, actors and technological properties that acknowledges the heterogeneity of the older population and its multiple needs and desires’. According to the literature, there are three groups of people: the people who use ICTs, the people who would like to use ICTs (but cannot do so to the level they wish), and the people who do not use ICTs (Russell 1998; Millward 2003; van Dijk 2005; Birkland 2019). In exploring the literature on technology adoption and acceptance, it became clear that the ‘person’ was lost in much of the technology literature, much like the anti-humanist school of thought detailed in the previous section. This is supported in the quote below:

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[32] STAM consists of the following components: user context (demographic variables, social influence, personal factors), perceived usefulness (the extent to which the person believes that the device will enhance the task), intention to use, experimentation and exploration, ease of learning and use, confirmed usefulness, and actual use (Renaud and van Biljon 2008; Barnard et al. 2013).

> Exploring lenses outside the bounds of social and cognitive psychology could provide a more informative view about the ‘humanness’ of IT users, which is an important aspect often lost in the technology acceptance literature. Focussing only on social influences and cognition and ignoring the role of human nature to theorise about the decisions that people make can lead to oversight of fascinating and potentially integrating explanations. (Abraham et al. 2009: 2)

In contrast to the above interventionist models, the CAT model of Peine and Neven (2021: 2860) suggests that the technology-push models are done away with ‘in which common notions like “acceptance”, “implementation” or “impact” are the stable endpoint which can and must be created or produced by a technological intervention’ and instead a cyclical model where there is ‘a way of understanding acceptance, impact or use of technology in the lives of older people is a start from a model that does not presuppose it’.

2.5.5 Emerging research on technology, wellbeing and ageing

With the PhD fieldwork and write-up spanning 10 years (2014–2024), related studies were undertaken concurrently. Critically, this section analyses the most recent data and situates the study within the emerging literature.

Many studies appear similar to this PhD thesis/study at first glance, with the journal article title or abstract sounding similar. However, when the journal article is reviewed, the study is usually found to be dissimilar based on location (taking place in a home in the community, not a care home), intervention (such as using a mobile phone, not using a handheld tablet), or aim (focussing on safety, not connection). However, much can be learnt from other studies, such as the ergonomics of use, training techniques, or intervention type, to name a few. As a result, some of the recommendations from the ‘dissimilar’ studies were taken into consideration when designing this study. The following section will detail some of these studies, both similar and dissimilar, that influenced this PhD study.

2.5.5.1 Participants with dementia or cognitive differences

There is a plethora of literature on undertaking a handheld tablet intervention with older people with dementia. While my PhD study excluded participants with dementia, these studies are relevant and have therefore been included in the review. Jones et al. (2013) conducted a six-month pilot study across 11 care homes involving a group of older people with dementia. Care home residents used tablets with the help of carers or family members, or in groups. A mixed methodology was used, collecting quantitative data through questionnaires and qualitative data through topic-guided interviews with residents (and focus groups with carers). The results showed that the device's use changed from entertainment to information gathering and sharing. Mainly positive experiences were reported, including increased opportunities for social interaction and enhanced intergenerational communication; however, the bias toward the social aspect of working on a handheld tablet with a carer or family member may be present. Overall, the study reported that the device's portability and adaptability, combined with increased social interaction, could improve the quality of life of care home residents. The study reported two limitations: the ergonomics (device weight and screen reflections) and the interface complexity. The findings from this study were used to inform the PhD study design and fieldwork, even though these participants had dementia. Various factors were incorporated into the PhD study, including a mixed-methods study design and findings on ergonomics of use, which led me to choose smaller handheld tablets for my intervention.

A randomised controlled trial (RCT) by Nordheim et al. (2017) investigated the use of handheld tablet interventions in care homes for residents with dementia, using applications targeted at cognitive and functional abilities to support emotional self-regulation. While this study differed in its target group and aim, the RCT showed an increase in happiness levels and improvements in mood and social behaviour due to using the applications. This study was dissimilar, with an RCT design, participants with dementia, and a focus on applications to improve cognitive ability. However, the intervention of training care home residents to use a handheld tablet was similar, and therefore, some lessons can be learned from this study.

A scoping review by Hitch et al. (2017: 7) investigated the use of handheld tablet technology with people living with dementia in their homes. The review concluded that ‘the focus on a “one size fits all”, rather than a customised approach, cannot adequately address barriers to engagement in meaningful activity for people with dementia. A shift from designing population-level interventions to exploring how we properly match the technology to the individual would be a fruitful direction for future research. The outcome is relevant to the PhD study because it highlights that customisation is key to working with older people and further supports the personalisation element of the PhD, specifically through the use of a person-centred theoretical framework presented in the following chapter.

A scoping review by Hung et al. (2021) examined the existing literature on using handheld tablets with older people living with dementia in care homes to support social connections and reduce responsive behaviour. The review found that the tablets increased engagement, reduced responsive behaviour, and had a positive effect on residents' quality of life. The study confirms that engaging with handheld tablets can have a positive impact on wellbeing. The study reviewed existing literature and did not undertake an on-the-ground intervention, unlike this PhD study.

2.5.5.2 A mixture of technology

Haikio et al. (2007) conducted an experiment in which community-based older people used a touchscreen mobile phone to input data over eight weeks. This study collected data from interviews, observations, and self-report diaries. The results showed that a touchscreen interface on a mobile phone was easy to use regardless of physical or cognitive limitations. This study used touchscreen technology with older people, so it was similar in some ways and dissimilar in others; however, some lessons on the ergonomics of use were considered when designing this PhD study.

Thach et al. (2023) introduced virtual reality in a care home and recommended that its introduction be personalised and handled with respect and care. This study differed in that it used a different type of intervention (virtual reality rather than handheld tablets); however, many of the lessons were relevant to this PhD. While this literature was published after the PhD fieldwork and write-up, it further supports this PhD, specifically around the need for personalisation and ultimately the personalised introduction of devices being of the utmost importance.

A systematic review by Balki et al. (2023) found that technology, specifically ICTs, improved social connectedness. Still, their effectiveness depended on the intervention, where longer training sessions were recommended. This review did not specifically look at handheld tablets or people living in care homes; it was an overall review of ICTs. The study was published post-PhD fieldwork, but once again emphasised that proper training is essential and therefore the recommendations are highly relevant to this PhD study.

2.5.5.3 Handheld tablets

Waycott et al. (2012) undertook a study to actively involve a group of older adults in the development and evaluation of a tablet application for peer-to-peer communication. Over ten weeks, this study collected qualitative data through interviews. Participants lived independently and were visited once a week by the care provider; they did not live in a residential care home. This study details five strategies for engaging participants, some of which were used in this PhD study. Alongside the application, participants were shown how to use the internet at social events. This study was similar in some ways, such as participants using a handheld tablet, but dissimilar in others, including the focus on application design, the short duration of the programme, and the lack of personalisation of applications.

In another study by Barnard et al. (2013), the focus was on training. Two case studies were undertaken: the first set of participants were supported in using a handheld tablet, and the second set were not trained or supported in using the device. The study collected data through semi-structured interviews and open discussions and sought to examine the factors influencing technology adoption. This was a very different type of study due to the nature of the intervention: the first group were avid technology users who received training to use a new handheld tablet, and the second group were non-technology users who received no training. However, the outcome was of interest in that it showed ‘the powerful role that facilitating conditions have for learning to use digital technologies for this user group, whether supporting through step-by-step guidance, providing a friendly space to use trial and error methods, and/or provision of a manual’ (Barnard et al. 2013: 1715). These lessons were used to inform the PhD fieldwork, and once again show the importance of training and support in learning to use a new device.

Baecker et al. (2014) evaluated a communication application on a handheld tablet over two months. The application was co-designed with a group of frail residents at a care home. A mixed-method design was used to collect data through semi-structured interviews, psychometric scales, accessibility and usability tests, observations, and log analysis. The results were mixed with an increase in subjective wellbeing reported alongside three perverse effects listed as increased awareness of poor health, the highlighting of family tensions, and enhanced consciousness of restrictive contexts (such as living in an institution). Very little information about training sessions was included. This study was similar in terms of participants, location, and intervention; however, it did not use deep ethnographic methods over an extended period, as was done in the PhD fieldwork, and the intervention was not customised to suit individual participants (as it tested only one application).

In another study by Tsai et al. (2015), 21 handheld tablet users were interviewed to explore various dimensions of adoption. Participants reported increased connectedness when using the handheld tablets, and most users found the devices easy to use. One participant stated, ‘I think the older community should have it … everyone should have a tablet as opposed to a laptop or computer’ (Tsai et al. 2015: 10). This study did not administer any training sessions, and participants lived in the community, not in a care home, but the findings were of interest.

Chan et al. (2016) conducted an RCT to establish whether tablet training could improve cognition and function. It did not look to test changes in connection or wellbeing levels. Over ten weeks, 54 community-dwelling adults participated in five hours per week of group training with an instructor. The in-person training sessions were combined with homework, while the two control groups undertook a non-technology-focused intervention. All participants had little to no experience with handheld tablets. At the end of the study, all 18 participants in the intervention group either bought or were gifted a tablet. The tablet group showed greater improvements in episodic memory and processing speed. This study differed in terms of participants living in the community, the study design, and the aim; however, the training element was of interest to the PhD study because it details lessons learned during these sessions.

A study by Vaportzis et al. (2017b) looked to understand the experiences of a group of community-dwelling older people learning to use a handheld tablet. This was a mixed-method study that used questionnaires and focus groups to collect data, and inductive thematic analysis. Participants received training during group sessions and reported the following advantages: keeping in touch with family and friends, contributing to the community, and the potential to improve mental ability. Future recommendations included using smaller groups for training, with sessions lasting longer, and the need to repeat instructions. This study was dissimilar in terms of participants living in the community (and therefore being less frail). However, the intervention of using group training sessions to teach participants to use the handheld tablets is of interest, as are the reported advantages. This study was published after the PhD fieldwork and further supported the hypothesis that a handheld tablet enables older people to connect with others, community, and society.

Neves et al. (2017) developed and tested an application to enhance social connectedness with a small group of older adults living in a care home and their relatives. A case study methodology was used, and data was collected through interviews, psychometric scales, observations, and accessibility and usability testing. The study tested an application that allowed participants to send messages and make video calls. It did not include any other applications. Participants received one training session and then tested the application for two months. This study was similar in some ways, such as study design being a case study, participant group and intervention being a handheld tablet, but dissimilar in other ways, such as providing few training sessions and the non-personalisation of the software.

Tsai et al. (2017) examined the journey of learning to use a handheld tablet by a group of older community-dwelling adults. The participants were computer-literate and already had handheld tablets. Convenience sampling was used to recruit 20 participants, and data was collected through interviews. This study focussed on how the participants learnt to use the devices and the importance of support in the learning process. Several lessons can be drawn from this study, but overall, it differed because the participants had their own devices and lived independently in the community. These lessons include the importance of regular, high-quality training and the availability of support when a problem arises.

Delello and McWhorter (2017) conducted an eight-week study with a group of older people living in a supported retirement village to determine whether a handheld tablet could connect participants to online communities and people, thereby reducing social isolation. It was a mixed-method case study design where data was collected through surveys, documents, feedback, and open-ended questions. Participants underwent weekly 90-minute training sessions with instructors for six weeks. In addition, they received physical handouts detailing instructions.

Participants were given homework between sessions. The study differed from the PhD study in that participants were trained through group sessions to use the device (not one-on-one), and the trainers were not available outside training hours to help. However, participants were similarly trained to use a variety of applications such as Facebook, Zoom and Pinterest. This study highlights the importance of good-quality training to support users in using the handheld tablets.

A study by Ysseldyk et al. (2024) looked to investigate whether online social media networking could improve wellbeing. It conducted an RCT with 48 people living in a residential care home. Participants were divided into four groups (two for the technology intervention and two for the control) and engaged in a 12-week group programme. The two groups that received the technology intervention were taught to use social media on tablets during weekly group training sessions. One of the groups had access to a Facebook group to support them through the process. The group that received the technological intervention showed increases in life satisfaction and self-perceived competence. This study differed from the PhD study in that it trained participants in groups and focused on social media; however, it also involved training older people living in a care home and aimed to improve wellbeing through connection. This study was published in 2024, after the PhD fieldwork and thesis write-up. However, some of the lessons are highly relevant to the PhD study. This study further supports the drive behind the PhD study, which was conceptualised in 2013 with the aim of using handheld tablets to enhance connection.

2.6 The gap in knowledge

As noted in the introduction, this study set out to understand the impact of using handheld tablets on the wellbeing of older people living in a care home, and to answer the following research question:

1. How does a handheld tablet intervention impact the wellbeing of older people living in a care home?

However, as the fieldwork progressed, the problematisation of introducing handheld tablets became the focus due to the challenging environment. The study shifted and became focused on the person-centred element using ethnographic methods over a long period. As a result, the study looked to answer a second research question:

2. How can a person-centred approach be used to introduce handheld tablets to older people living in a care home?

Finally, as the data was analysed and the thesis was written up, an autoethnographic element was identified, leading to the formulation of a third research question:

3. How does undertaking person-centred research in a care home impact the researcher?

The first research question about investigating the impact of using a handheld tablet on wellbeing is not especially unique. Several studies have reported that using handheld tablets has resulted in some improvement of wellbeing, for example, Jones et al. (2013) and Ysseldyk et al. (2024). This is also discussed across other studies (Chan et al. 2016; Delello and McWhorter 2017; Nordheim et al. 2017; Vaportzis et al. 2017b; Neves et al. 2018; Hung et al. 2021).

However, when the wellbeing element is coupled with the personalisation element, a gap in the literature begins to open. Many studies called for the personalisation of training and the customisation of handheld tablets as outcomes or findings to be accepted and adopted (Chen and Schulz 2016; Birkland 2019; Padilla-Góngora et al. 2017; House of Lords 2021). Vercruyssen et al. (2023) reported that user training was identified as the most significant barrier to adoption. A systematic review investigating the effects of ICTs by Chen and Schulz (2016: 7) stated that 'tailor-made training for the elderly (in terms of its setting, procedure, materials, timing and instructor's style and attitude) is necessary for a maximum positive effect of the ICT on alleviating social isolation'. Vaportzis et al. (2017a) suggest that older people require additional support, given appropriately, due to a lack of confidence in using technology. This is supported by Friemel (2016), who states that one-on-one training is considered desirable, and by Jin et al. (2019) and Chan et al. (2016), who recommend that training for older users be flexible and self-paced to suit their real-life needs. Barnard et al. (2013) state that the long-term use of technology is based on the availability of training and support, where several studies report that a lack of training is regularly cited as being one of the most significant barriers for older people learning to use ICTs (Tsai et al. 2017; Birkland 2019). The importance of good training and support was recommended by other studies (Tsai et al. 2017; Balki et al. 2023), with the need for smaller groups identified (Vaportzis et al. 2017a), and introduction to be done with respect and care (Thach et al. 2023).

Finally, Neves and Mead (2021: 902) describe that willingness is shaped by training and support, where:

> A comprehensive digital inclusion policy must account for diverse social contexts and avoid the 'one-size-fits-all'. For example, digital literacy programmes targeting older people should consider both individuals' needs and aspirations (personalisation) and the social contexts, such as living setting or family interaction (contextualisation).

One-on-one training with a tailored pace, removal of technological jargon, and personalisation is essential to meet the needs of older people (Barnard et al. 2013; Neves and Mead 2021). Paulovich et al. (2022) emphasised the flexibility of technological interventions in a study exploring technology use among a group of older community-dwelling individuals. They reported that 'technology can be an effective support mechanism for wellbeing', helping people stay active in community life, and recommended that 'we need to avoid a "one-size-fits-all" approach to technology initiatives for older adults, and that tailored, customised, flexible solutions need to be explored' (Paulovich 2022: 11). This call for flexibility and customisation was also echoed by Neves et al. (2023: 154), who suggested that technology-based interventions (internet use, social media, applications, robotic companions, and virtual reality) can reduce loneliness among older people, but highlighted that 'their efficacy could be improved by technology that matches the diverse needs, capabilities, and circumstances of older people'. Additionally, Hitch et al. (2017) emphasised the importance of matching technology to the individual.

To meet the personalisation element, this PhD study examined person-centred care, as explained in detail in Chapter Three, alongside lessons learned from researching care homes, as described in Chapter Four. This led to the development of a framework called the Gerontechnological Principles Guidelines (GPG), to guide the implementation of the intervention. The GPG are detailed in Chapter Three. Very few other studies include details on training, except for Waycott et al. (2012), which involved participants living in the community and a ten-week research period. In contrast, this PhD study employs ethnographic data collection over 24 months and details the training methods used.

Finally, after an in-depth immersion over a 24-month period, an autoethnographic element was identified during the analysis of the field notes. This element aimed to shift the focus onto myself, the researcher, allowing reflection on the impact of the fieldwork. This autoethnographic angle is unique because most studies concentrate on the participants when evaluating technological interventions. No other research reports employ an autoethnographic lens over an extended period while introducing a handheld technological intervention in a care home. The autoethnographic account emerging from deep immersion in the environment is a valuable contribution to knowledge.

2.7 Conclusion

This chapter reviewed the literature that forms the foundation of this study and the literature that has developed alongside it. Relevant research on ageing, wellbeing, connection, care homes, and technology was examined. Additionally, relevant theories were presented to give the reader an understanding of the breadth of literature in these areas. In summary, elements of wellbeing can change as people age, with social connectedness recognised as a vital component of wellbeing. Technology can support social connectedness, but its adoption depends on acceptance, which is a complex issue for older adults. The existing literature recommends prioritising the ‘person’, focusing on personalised training and customised devices.

With the literature missing the ‘person’, I began to examine it through a lens in which the person and the environment are just as significant as, or even more important than, the technology or device. This literature review offers a strong argument for conducting this research and provides a nuanced view on undertaking technology interventions with older people living in a care home. The next chapter will build on this work and adapt a Person-centred Framework to serve as a theoretical basis for introducing the intervention, which is central to this study.

CHAPTER THREE: THEORETICAL FRAMEWORK

The emerging literature presented in Chapter Two emphasised placing the ‘person’ at the centre of technological interventions, highlighting the personalisation of training and customisation of devices. It identified studies advocating for tailoring technology to older individuals, rather than using the common one-size-fits-all model. This study takes place in a care home, a setting that supports and cares for individuals towards the end of life. Consequently, I examined the health and social care literature, where I found numerous sources on care models that stress the importance of the person and personalising services in social care. As a result, this study adopts a person-centred approach as its theoretical framework.

According to McCance and McCormack (2024), person-centred care has a strong philosophical foundation rooted in humanistic philosophy, placing the person at its centre. This chapter will explain humanistic philosophy and what it means to be a person before exploring person-centred care models and frameworks. In this section, I highlight a significant gap in the literature regarding the urgent need for person-centred research related to technology. Finally, this chapter introduces the Gerontechnological Principle Guidelines (GPG), a framework I developed by adapting the Person-centred Nursing Framework. I created this because I wanted a framework specifically suited to integrating information and communication technology into the care home setting. The GPG is discussed in detail and represents a valuable contribution to knowledge.

3.1 Humanistic philosophy

Humanistic psychology is a psychological perspective that focuses on examining the whole person and highlights individual potential, self-actualisation, and personal growth. Emerging in the mid-twentieth century as a ‘third force’ alongside behaviourism and psychoanalysis, it developed in response to the reductionism of these dominant paradigms by asserting that human beings are more than just the sum of their parts and should not be understood solely through observable behaviours or unconscious conflicts (Ashburner 2005; Thorne 2007). Supporters contend that individuals have an innate capacity for self-healing, creativity, and moral reasoning. This perspective maintains that each person is best understood within the context of their overall lived experience and that the subjective perception of reality is critically significant.

The movement has its intellectual roots in the work of theorists such as Abraham Maslow and Carl Rogers, who aimed to develop a framework that emphasised human dignity, freedom, and the pursuit of meaning in life (Maslow 1943; Rogers 1980). Central to humanistic psychology is the concept of self-actualisation, a process through which individuals strive to realise their full potential via personal growth and authentic living. This paradigm highlights the importance of conscious experience, the ability to choose, and the roles of empathy, listening, and genuineness in therapeutic settings. In this way, therapeutic practices derived from humanistic psychology prioritise creating conditions that enable individuals to explore and affirm their personal experiences, values, and aspirations (Brownie and Nancarrow 2013).

Furthermore, humanistic psychology has shaped both scholarly research and clinical practice by questioning traditional methods and promoting a more comprehensive view of wellbeing. It advocates for including existential, phenomenological, and narrative approaches to reflect the complexity of human experience. By emphasising themes such as freedom, self-determination, and the quest for meaning, humanistic psychology has enhanced broader debates about human rights, social justice, and the role of psychology in tackling societal issues (Slater 2006). At its heart, the discipline maintains that a deeper, more compassionate understanding of human beings can drive transformational change both personally and collectively (Brownie and Nancarrow 2013). Humanistic psychology underpins person-centredness and person-centred care, as discussed below.

3.2 The person in person-centred

According to Dewing et al. (2021), person-centredness is shaped by our philosophical understanding of what it means to be human and how we regard personhood. Smith (2010: 74), a sociologist who examines the ontology of personhood, describes a person as:

> A conscious, reflective, embodied, self-transcending, centre of subjective experience, durable identity, moral commitment, and social communication who – as the effective cause of his or her own responsible actions and interactions – exercises complex capacities for agency and intersubjectivity in order to develop and

> sustain his or her own incommunicable self in loving relationships with other personal selves and with the non-personal world.

Person-centredness or a person-centred approach is a philosophy that values an individual's unique values, personal history, personality, and the right to dignity, respect, and autonomy. It is grounded in humanistic psychology (Manley 2017; Eklund et al. 2019; Sundler et al. 2020). Carl Rogers proposed that:

> A person-centred approach, based on acceptance, caring, empathy, sensitivity, and active listening, promotes optimal human growth. He [Rogers] believed that in order to actualise human growth in late life, individuals should have access to, and opportunities for, ongoing learning, personal challenges, and close and intimate relationships. (Brownie and Nancarrow 2013: 2)

The person-centred care approach places the individual at the heart of the model, ensuring that maintaining their identity remains central to all decisions (McCormack and McCance 2010a; McCormack et al. 2015; McCance et al. 2021; Berntsen et al. 2022). People are given choices, and every decision is made collaboratively, reflecting their wishes and ambitions while highlighting their strengths and abilities (Dupuis et al. 2012; McCormack and McCance 2006).

According to Borg and Karlsson (2017), the person-centred approach has become a key philosophy in caring for the elderly. It looks beyond physical and cognitive challenges, asserting that individuals can still experience a good quality of life and achieve a high level of wellbeing (Crandall et al. 2007; Dupuis et al. 2012; McCormack and Titchen 2014). Ultimately, the focus of person-centredness is human flourishing (Dewing and McCormack 2017), a concept traceable back to Aristotle, who suggested that 'flourishing occurs when a person is concurrently doing what he ought to do and doing what he wants to do' (McCormack and Titchen 2014: 2). This view connects to the wellbeing models presented in the Literature Review in Chapter Two, where flourishing is described as the goal of human existence and is central to the New Economic Foundation's Five Ways to Wellbeing Model.

3.3 Person-centredness in social care

In the 1990s, there was a philosophical shift within the care sector, from the traditional biomedical care model[33] to an approach based on humanistic psychology known as the biopsychosocial model[34] (Nolan et al. 2004; Dupuis et al. 2012; McCormack et al. 2017a). This shift in direction placed the person at the centre of nursing literature, exemplified by Roach's (1987) conceptualisation of caring relationships, Leininger's (1988) theory of culture care, Watson's (1985) theory of human caring, and Boykin and Schoenhofer's (1993) theory of nursing as caring. This move towards the biopsychosocial model of care for the elderly embraced person-centredness as a core philosophy and transformed care models across several countries, including the UK, USA, and the Netherlands (Brownie and Nancarrow 2013). It prompted many changes in care home culture, leading to the development of new approaches across the sector, such as the Eden Alternative by Thomas (1996), which aimed to overcome the institutional environment by 'normalising' the physical setting and incorporating plants, animals, and children. Other models include, but are not limited to, the work by Kitwood and the Bradford Dementia Group (Kitwood 1997; McCormack and McCance 2017), Person-centred Practice Framework (McCormack 2003a; McCormack and McCance 2010a; McCance and McCormack 2017; McCance and McCormack 2021), Lifeworld Approach (Galvin and Todres 2013), Family Model of Care (Voelkl et al. 2004), Relationship-centred care (Tresolini and Pew-Fetzer Task Force 1994; Nolan et al. 2004; Ryan et al. 2008; Brooker 2011), and Partnership approaches to care (Adams and Clarke 1999; Dupuis et al. 2012).

The definition of person-centred care can be confusing, as the term 'person-centred' is often used broadly to describe various care models (Slater 2006). A review by Hughes et al. (2008: 459) examined the different types of 'centredness' in health and social care and identified a 'conceptual paradox' arising from the interconnected nature of the concept:

> We need to see more clearly the apparent paradox that, on the one hand, we have different types of centredness, which can lead to quite different ways of working, whilst, on the other hand, there is no distinction between the types of centredness at the conceptual, thematic level.

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[33] A top-down approach in which decisions are made on behalf of the patient, predominantly around their medical care.

[34] A bottom-up humanistic approach centred on the person.

This paradox is echoed by Juul et al. (2019: 2), who state that ‘there does not exist one specific meaningful engagement or person-centred care model, but rather a variation of different approaches’, with ‘no simple recipe for doing person-centred research and no easy way out of relational challenges’ (Jacobs et al. 2017a: 59). McCormack et al. (2015), the founders of the Person-centred Practice Framework, explain further:

> The use of the terms ‘person-centredness’ and ‘person-centred care’ has become increasingly common in health and social care services at a global level. A cynic might argue that the term is being used as a ‘catch-all’ for anything to do with high-quality health and social care, but we would contend that it is representative of something more significant than this, namely, a movement that has an explicit focus on humanising health services and ensuring the patient/client is at the centre of care delivery. In this context, the body of evidence supporting the processes and outcomes associated with person-centredness in health and social care is constantly growing and becoming increasingly diverse. (McCormack et al. 2015: 2)

No matter which definition or framework one adopts for person-centredness, there is agreement that a ‘re-centring’ of caring has occurred, which has become significant both ideologically and structurally, as well as for ethical and professional reasons (Hughes et al. 2008), as shown above.

Much has changed in the health and social sector over the past 25 years. In 2009, Wilkinson et al. (2009) argued that person-centred care in practice differed from the approach described in the literature, which placed more emphasis on humanistic psychology. By 2015, Harding et al. (2015) noted that the Health Policy Partnership considered the use of person-centred care to be the exception rather than the norm. However, by 2017, a shift had occurred, and McCormack and McCance (2017a) reported that person-centredness had become central to health-care policy and strategy in the United Kingdom, exemplified by initiatives such as the *Personalised Care and Support Agenda* in England (National Health Service England 2017) and *the Health and Social Care Standards* in Scotland (The Scottish Government 2017).

3.4 A call for person-centred research

Across the field of health and social care, there has been a call for research to be undertaken in a person-centred manner. This mirrors the technology literature in calling for the personalisation of technology, and it also highlights the literature's omission of the person, as explained in the Literature Review in Chapter Two. McCormack et al. (2017: 13) recommend that researchers consider underpinning their methodology with person-centred values:

> Despite the global development in person-centredness and the growth in research into person-centredness, little research has focused on research as person-centred. Doing research in a person-centred way continues to be under-represented in research reports and even the research into different aspects of person-centred healthcare usually fails to consider person-centred values in its underpinning methodology. There is little evidence of significant advancement in this regard and we believe that this is a key priority for research in person-centredness as we move the agenda forward.

As person-centred research culture developed, researchers identified core principles or dimensions to guide the research, emphasising the interaction between those involved (participants and researchers). This interaction encompasses interests, needs, diverse expectations, power dynamics, feelings, and projections, with the research being directed by a set of principles specific to that context (Jacobs et al. 2017b). McCormack and Dewing (2019) identified ten core dimensions as methodological principles for person-centred research:

1. Articulation of the interconnected concepts that represent different intentions, passions and colours
2. Respect for individual values and beliefs
3. Articulation and contextualisation of personhood
4. Enabling individuals to make autonomous decisions regarding their health and wellbeing
5. Freedom of movement across different contexts with no boundaries
6. Creating a feeling of oneness while respecting diversity
7. Interconnected relationships (with respect, engaged and inclusive)
8. Flourishing for all
9. Empowerment of healthcare professionals
10. Risk-taking while being mindful, creative and reflective

More recently, the elements of person-centred care have extended beyond the health and social sector to other areas. One area of interest is the technology field, where there has been a call for person-centred research in the technology field:

> Person-centredness is a humanising principle in healthcare and other practices, aimed at high-quality relationships that are growth-fostering and empowering to all those involved. Doing person-centred research into technology in healthcare shifts the perspective from 'what is' and 'what is possible' (in technology) to 'what is desirable' from a perspective of humanisation. (Jacobs et al. 2017a: 61)

Since the fieldwork for this study was undertaken, many more papers and textbooks supporting the person-centred lens for technology have been published. For example, a textbook by

McCormack et al. (2017) includes chapters of particular interest, such as ‘Research into person-centred healthcare technology: A plea for considering humanisation dimensions’ by Jacobs et al. (2017a) and ‘Person-centred technology-supported interventions’ by van Dulmen et al. (2017a). Both chapters advocate introducing technology with a person-centred approach, grounded in core principles. This literature further reinforces my argument for adopting a person-centred approach when implementing technological interventions.

3.5 Person-centred Framework

After reviewing the literature on person-centredness and person-centred care models, I chose to work with the Person-Centred Framework for three reasons. Firstly, it was developed by combining the frameworks of experienced researchers McCance[35] and McCormack[36] to create the Person-Centred Practice Framework (McCormack 2003a; McCormack and McCance 2006; McCormack and McCance 2010b; McCance et al. 2021). Secondly, despite being developed from a nursing perspective, the framework could be applied in a variety of multidisciplinary contexts (McCormack et al. 2015; McCance and McCormack 2021). And thirdly, the framework is validated[37] (McCance and McCormack 2017).

The Person-centred Framework originates from the humanistic approach to caring, where its core principles and practices are grounded in therapeutic intent, which is realised through relationships founded on effective interpersonal processes (McCormack and McCance 2006; McCance and McCormack 2017). The framework was developed from two doctoral studies, one by McCormack and the other by McCance. McCormack’s research investigated the meaning of autonomy for a group of older people in a hospital environment, employing a qualitative methodology guided by Gadamer’s hermeneutic philosophy (Gadamer 1989). The result was a conceptual framework known as the Authentic Consciousness Framework for person-centred practice for older adults (McCormack 2001). McCance’s research examined nursing care provided to inpatients across large hospital medical and surgical units, utilising a hermeneutic

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[35] This study described caring in nursing from a nurse and patient perspective.

[36] This study described person-centred practice from a study of autonomy – specifically with older people.

[37] Validation signifies that rigorous processes have been undertaken to ensure its credibility, reliability, and applicability within specific contexts

phenomenological approach as outlined by Heidegger (Heidegger 2005). The outcome was a conceptual framework for caring in nursing practice (McCance 2003).

Subsequently, McCormack and McCance collaborated on a large quasi-experimental study assessing the effectiveness of person-centred nursing in a hospital (McCormack et al. 2007; McCormack and McCance 2021). It was during this period that the Person-Centred Nursing Framework was created based on their shared philosophical foundations rooted in human science (McCormack and McCance 2006). The Framework was embedded in the concept of being a person, drawing from several principles: freedom, responsibility and choice, holism[38], different forms of knowing[39], and the importance of relationships, time and space (McCormack and McCance 2006, 2021). At this early stage, the Framework was described as a middle-range theory (Merton 1949), which refers to a type of theoretical framework that bridges the gap between grand theories and specific empirical findings. It is positioned within the scope of social sciences and healthcare, providing a focused lens through which particular phenomena can be understood and researched comprehensively. The Framework continued to evolve, influenced by engagement from other stakeholders, leading to the development of the Person-centred Practice Framework in 2017 (McCance and McCormack 2017). This newer Framework was placed within a broader context and applied to a wider range of healthcare workers. Both the Person-centred Nursing Framework and the Person-centred Practice Framework will be explained below. This study used the Person-centred Nursing Framework (McCormack and McCance 2010a) as a lens to undertake the fieldwork in 2014–2016. This will be explained in greater detail later in this chapter.

3.5.1 The Person-centred Nursing Framework

The Person-centred Nursing Framework was initially developed for the nursing field, where it was defined as follows:

> Person-centred nursing is an approach to practice established through the formation and fostering of therapeutic relationships between all care providers, service users and others significant to them in their lives. It is underpinned by values of respect for persons, individual rights to self-determination, mutual respect and understanding. It is enabled by cultures of empowerment that foster continuous approaches to practice development. (McCance and McCormack 2017: 42)

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[38] Holism is ‘non-reducible persons interconnected with others and nature’ (McCormack and McCance 2021: 14)

[39] Such as empirics, intuition, aesthetics and ethics

This Framework can be used in several different ways. Firstly, it assists practitioners in providing person-centred care (McCormack and McCance 2021). Secondly, it is used to generate meaning from data (data that can inform practice) (McCormack and McCance 2021). And, thirdly, it is used as a tool to assist practitioners in identifying barriers to change, leading to implementation and evaluation of change in practice (McCormack and McCance 2021). The Person-centred Nursing Framework has gone through two iterations. The latest iteration of the Person-centred Nursing Framework is presented in Figure 3. It comprises four domains, and a practitioner would work through all the domains to ultimately achieve the outcome:

1. Prerequisites – focuses on the characteristics of the nurse:
    a. Professionally competent – 'The knowledge, skills and attributes of the nurses to negotiate care options and effectively provide holistic care' (McCormack and McCance 2021: 17)
    b. Developed interpersonal skills – 'The ability of the nurse to be able to communicate at a variety of levels with others using effective verbal and nonverbal interactions that show personal concern for their situation and a commitment to finding mutual solutions' (McCormack and McCance 2021: 17)
    c. Commitment to the job – 'The dedication of nurses demonstrated to patients, families and communities through intentional engagement that focuses on achieving the best possible outcomes' (McCormack and McCance 2021: 17)
    d. Clarity of beliefs and values – 'The awareness of the impact of nurses' beliefs and values on the care experience provided by nurses and the commitment to reconcile beliefs and values in ways that facilitate person-centredness' (McCormack and McCance 2021: 17)
    e. Knowing self – 'The way a nurse makes sense of her knowledge, being and becoming a person-centred practitioner through reflection, self-awareness, and engagement with others' (McCormack and McCance 2021: 17)
2. The care environment – focuses on the context of the environment:
    a. Appropriate skill mix – 'The ratio of registered nurses and non-registered nurses in a ward or unit nursing team with the requisite knowledge and skills required to provide quality care' (McCormack and McCance 2021: 18)

   b. Shared decision making – ‘Organisational commitment to collaboration, inclusive and participative ways of engaging within and between teams’ (McCormack and McCance 2021: 18)
   c. Effective staff relationships – ‘Interpersonal connections that are productive in the achievement of holistic person-centred care’ (McCormack and McCance 2021: 18)
   d. Supportive organisational systems – ‘Organisational systems that promote initiative, creativity, freedom, and safety of persons underpinned by a governance framework that emphasises culture, relationships, values, communication, professional autonomy and accountability’ (McCormack and McCance 2021: 18)
   e. Power sharing – ‘Nondominant, non-hierarchical relationships that do not exploit people, but instead are concerned with achieving the best mutually agreed outcomes through agreed values, goals, wishes and desires’ (McCormack and McCance 2021: 18)
   f. Potential for innovation and risk taking – ‘The exercising of professional accountability in decision-making that reflects a balance between the best available evidence, professional judgement, local information and patient/family preferences’ (McCormack and McCance 2021: 18)
   g. The physical environment – ‘Healthcare environments that balance aesthetics with function by paying attention to design, dignity, privacy, sanctuary, choice/control, safety, and universal access with the intention of improving patient, family, and staff operational performance and outcomes’ (McCormack and McCance 2021: 18)
3. Person-centred process – focuses on delivering care through activities:
   a. Working with the patients’ beliefs and values – ‘Clearly understanding what the patient values about his life and how he makes sense of what is happening from his individual perspective, psychosocial context and social role’ (McCormack and McCance 2021: 19)
   b. Engagement – ‘The connectedness between the nurse, the patient and others significant to them determined by knowledge of the person, clarity of beliefs and values, knowledge of self, and professional expertise’ (McCormack and McCance 2021: 19)

    c. Shared decision making – ‘Engaging patients and others significant to them in decision making by considering values, experiences, concerns and future aspirations’ (McCormack and McCance 2021: 19)
    d. Being sympathetically present – ‘An engagement that recognises the uniqueness and value of the patient by appropriately responding to cues that maximise coping resources through the recognition of important agendas in the person’s life’ (McCormack and McCance 2021: 19)
    e. Providing holistic nursing care – ‘Delivering treatment and care that pays attention to the whole person through the integration of physiological, psychological, sociocultural, developmental and spiritual dimensions of persons’ (McCormack and McCance 2021: 19)
4. Outcome – The latest version states that ‘the key outcome identified from the delivery of person-centred nursing is a good experience. The experience of good care reflects the evaluation that a patient, or indeed a nurse, places on her or his care experience, resulting from nurses with attributes that enable them to manage the care environment to provide person-centred care’ (McCormack and McCance 2021: 19). The original version stated that ‘outcomes are the results expected from effective person-centred nursing and include satisfaction with care, involvement in care, feelings of wellbeing, and creating a therapeutic environment described as one in which decision-making is shared, staff relationships are collaborative, leadership is transformational and innovative practices are supported’ (McCormack and McCance 2006: 477).

To summarise, if the nurse practitioner worked through all the domains, the patient should experience good person-centred care.

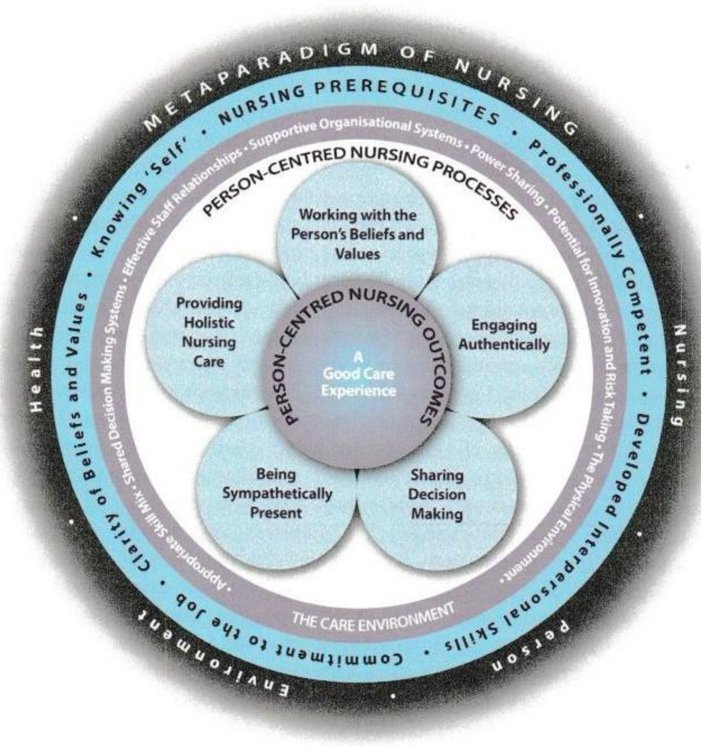

Figure 3: Person-centred Nursing Framework

(McCormack and McCance 2021: 16)

3.5.2 The Person-centred Practice Framework

The Person-Centred Practice Framework was published during the analysis and writing phase of this thesis. This Framework did not influence the fieldwork but did affect how the thesis was written. The origin of the Person-Centred Practice Framework is in nursing practice, but it sits within the wider healthcare system. It has undergone two iterations to ensure its relevance for a broader range of healthcare workers in multiple contexts (McCance and McCormack 2021). The Framework comprises four domains, and healthcare practitioners work through all of them to achieve the desired outcomes. It is important to recognise that there are overlaps and links between the constructs within the domains (McCance and McCormack 2021). This Framework exists within the larger macro context that reflects the strategic and political influences on the development of person-centred cultures (McCance and McCormack 2021).

The latest iteration of the Framework is presented in Figure 4. It comprises four domains:

1. Prerequisites focus on the characteristics of the staff:
    a. Professionally competent – 'The knowledge, skills and attitudes of the practitioner to negotiate care options, and effectively provide holistic care' (McCance and McCormack 2021: 28)
    b. Developed interpersonal skills – 'The ability of the person to communicate at a variety of levels with others, using effective verbal and non-verbal interactions that show personal concern for their situation and a commitment to finding mutual solutions' (McCance and McCormack 2021: 28)
    c. Knowing self – 'The way a person makes sense of his/her knowing, being and becoming through reflection, self-awareness, and engagement with others' (McCance and McCormack 2021: 28)
    d. Clarity of beliefs and values – 'Awareness of the impact of beliefs and values on the healthcare experience and the commitment to reconciling beliefs and values in ways that facilitate person-centredness' (McCance and McCormack 2021: 28)
    e. Commitment to the job – 'Demonstrated commitment of persons through intentional engagement that focuses on achieving the best possible outcome' (McCance and McCormack 2021: 28).
2. Practice environment focuses on the context:
    a. Appropriate skill mix – 'The number and range of staff with the requisite knowledge and skills needed to provide a quality service relevant to the context' (McCance and McCormack 2021: 28)
    b. Shared decision-making systems – 'Organisational commitment to collaborative, inclusive and participative ways of engaging within and between teams' (McCance and McCormack 2021: 28)
    c. Effective staff relationships – 'Interpersonal connections that are productive in the achievement of holistic person-centred care' (McCance and McCormack 2021: 28)
    d. Power sharing – 'Non dominant, non-hierarchical relationships that do not exploit individuals, but instead are concerned with achieving the best mutually agreed outcomes through agreed values, goals, wishes and desires' (McCance and McCormack 2021: 28)

    e. Physical environment – ‘Healthcare environments that balance aesthetics with function by paying attention to design, dignity, privacy, sanctuary, choice/control, safety and universal access with the intention of improving patient, family and staff operational performance and outcomes’ (McCance and McCormack 2021: 28)
    f. Supportive organisational systems – ‘Organisational systems that promote initiative, creativity, freedom and safety of persons, underpinned by a governance framework that emphasises culture, relationships, values, communication, professional autonomy and accountability’ (McCance and McCormack 2021: 28)
    g. Potential for innovation and risk-taking – ‘The exercising of professional accountability in decision making that reflects a balance between the best available evidence, professional judgement, local information and patient/family’ (McCance and McCormack 2021: 28).
3. Person-centred processes focus on the ways of engaging with the patient to create a connection:
    a. Working with patients’ beliefs and values – ‘Having a clear picture of the person’s values about his/her life and how he/she makes sense of what is happening from their individual perspective, psychological context and social role’ (McCance and McCormack 2021: 29)
    b. Sharing decision-making – ‘Engaging persons in decision making by considering values, experiences, concerns and future aspirations’ (McCance and McCormack 2021: 29)
    c. Engaging authentically – ‘The connectedness between people, determined by knowledge of the person, clarity of beliefs and values, knowledge of self and professional expertise’ (McCance and McCormack 2021: 29)
    d. Being sympathetically present – ‘An engagement that recognises the uniqueness and value of the person, by appropriately responding to cues that maximise coping resources through the recognition of important agendas in their life’ (McCance and McCormack 2021: 29)
    e. Working holistically – ‘Ways of connecting that pay attention to the whole person through the integration of physiological, psychological, sociocultural, developmental and spiritual dimensions of persons’ (McCance and McCormack 2021: 29).

4. Outcomes detailing results of an effective person-centred strategy or a healthful culture described as 'one in which decision making is shared, relationships are collaborative, leadership is transformational and innovative practices are supported' (McCance and McCormack 2021: 29).

To summarise, the health practitioner would work through all the domains to administer person-centred care and ultimately achieve a healthful culture.

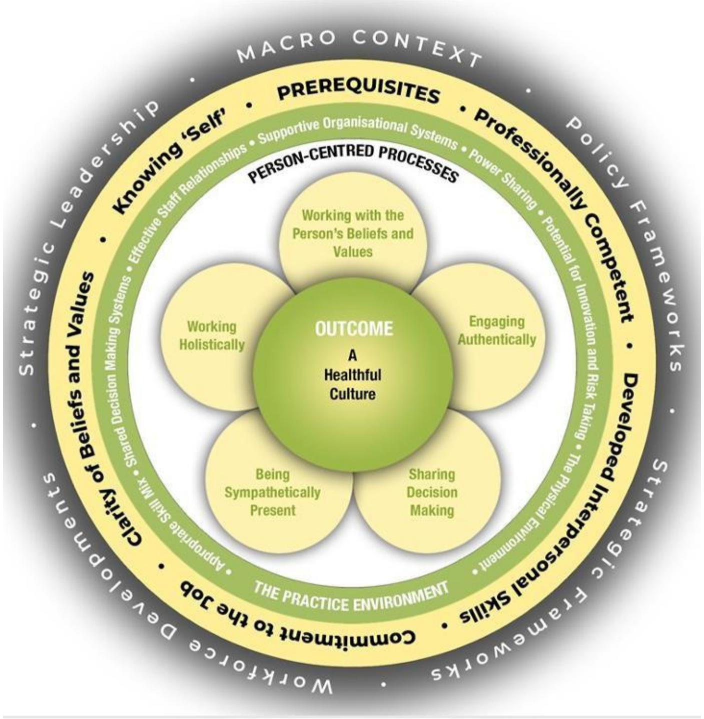

Figure 4: Person-centred Practice Framework
(McCance and McCormack 2021: 27)

The Person-centred Nursing Framework was specifically designed for the nursing context, where a nurse would utilise the framework to provide person-centred care. The Person-centred Practice Framework was created for the wider healthcare system, where a healthcare practitioner would employ the framework to develop an effective person-centred strategy or foster a healthful culture. For this study, I adapted the domains of the Person-centred Nursing Framework to develop a set of guidelines better suited to a care home setting. This approach to adaptation is supported by Dewing et al. (2021: 7), who state that researchers can weave together ideas to create their own person-centred research framework:

> Researchers can draw on the secondary application of primary philosophical ideas (ontological and epistemological) to create their own ontological and epistemological research framework. This is then woven with or even embedded into a philosophically informed understanding of person and personhood.

The approach is further supported by Titchen et al. (2017: 32), who explain how the 'person-centred researcher can blend these [philosophical] assumptions systematically, as well as intuitively, to meet their purposes'.

3.6 Gerontechnological Principle Guidelines (GPG)

To apply this theoretical lens in introducing a technological intervention to a group of older people living in a care home, I adapted the Person-centred Nursing Framework to develop a new set of guidelines called the Gerontechnological Principle Guidelines (GPG), which I used to direct my fieldwork.

Building on the literature presented in Chapter Two, the lessons on undertaking fieldwork in care homes outlined in Chapter Three, and the Person-centred Nursing Framework, I developed a list of my own guidelines better suited to a care home environment to guide the fieldwork. I identified connection as the key person-centred principle for this study, which ties back to the literature review where I discussed literature on wellbeing, specifically focusing on connection. All the guidelines relate to different elements across the literature.

The GPG comprises of two areas, with the first focussed on the researcher (myself) and the second focussed on the person-centred process. For the area focussed on myself as the researcher, I identified communication, self-awareness, and capability as three related principles:

1. Communication – the researcher needs well-developed communication skills with the ability to communicate verbally and non-verbally with all people in the environment on all levels. Good communication can be achieved through:
    a. A variety of good conversational approaches and being fully present and paying attention to participants' thoughts and emotions (van Dulmen et al. 2017b)
    b. Questioning in an open manner by inviting participants to share their feelings openly

    c. Actively listening, which encourages participants to feel included, valued, and respected, which helps in decision making and provides reassurance (Hargie 2010; Luff et al. 2011). Empathetic listening enables the researcher to maintain presence of mind and hear what may lie behind the participants' words.
    d. Using clear speech and language – using appropriate wording as digital expressions can be confusing (Tsai et al. 2017; Neves and Mead 2021).
2. Self-awareness – the researcher needs to listen to their inner wisdom while following their heart by being aware of their core values through knowing self and engagement. Self-awareness is not a self-taught skill and 'comes with lifelong learning and personal growth that is based on self-reflection' (McCance and McCormack 2017: 45). Self-reflection is recommended to improve self-awareness (Finlay 2003; McCance and McCormack 2017). Improving self-understanding and self-awareness can be achieved through journaling, which records thoughts, experiences, feelings, and learning (Brown and Tropea 2021). This principle links to the autoethnographic element of this study presented in Chapter Six.
3. Capability – the researcher needs to be capable of introducing the intervention. Competence with the holistic approach is consistent with person-centredness and considers the needs of participants' skills, knowledge and attitude to introduce an intervention (World Health Organization 2007). In Sundberg's (2001) view, competence is gained through experience (learnt in education), knowledge (learnt in everyday life) and abilities (the application of both experience and knowledge).

For the person-centred process, I identified knowing the person, empowerment and true engagement as the three related principles:

4. Knowing the person – Working with participants requires respect for who they are and their values (McCormack 2003b; van Dulmen et al. 2017b; Mezzich et al. 2013). Every participant has a unique life story, which shapes who they are. In this study, each participant is presented as a case in Chapter Six. Time must be spent getting to know participants, which will help develop a personalised service. This can be done by connecting through:
    a. Conversations in a relaxed atmosphere
    b. Understanding their history (Neves et al. 2023)

   c. Reminiscing about the past (Stake 2006; Brown-Wilson et al. 2009; Dewing 2009; Froggatt et al. 2009)
   d. Stories (McCance et al. 2011; Buckley 2017)
   e. Finding a common interest such as a sport or hobby.
5. Empowerment – Working with participants requires a shift in traditional thinking where the participants are encouraged to be in control of their own thoughts and actions and have the power to choose. Traditionally, decisions in health and social care settings were made on behalf of individuals (top-down). In person-centred work, the individual should be empowered to participate in this decision-making. This may involve a change in the traditional power relations (Hoffman 2007). This can be done by:
   a. Listening to and acting on participants' needs (Jack 2022)
   b. Building the confidence of participants
   c. Helping participants achieve their desires through joint decisions, or empowering participants to make their own decisions.
6. Authentic engagement – Working authentically requires the work to be open and genuine, while the researcher is aware of participants' needs and the needs of those in the environment (Higgins 1998; Heron 1999). Developing an understanding of the people and the environment while working on the ground is essential, with researchers leaving preconceived ideas at the door. This can be done by:
   a. Working with the beliefs and values of the researcher and the participants, leading to a connection
   b. Casting off preconceived ideas and being free and accountable for decisions (Lawler and Ashman 2012)
   c. Reciprocation of engagement in which both parties engage in a reciprocal sharing process, such as sharing stories or activities (Daly 1992, Dickson-Swift et al. 2007)
   d. Developing rapport (Higgins 1998; Goodman et al. 2012, Daly 1992; Dickson-Swift et al. 2007; Luff et al. 2011).

Many of the above themes of the GPG are 'interconnected' and all feed into the key principle: connection. I believed that a researcher with the appropriate skill-mix working in a person-centred manner will, in most cases, form a connection with the participant:

1. By enhancing connection, the researcher is more likely to have a positive impact on the participant, resulting in an improvement of the participant's and the researcher's wellbeing.

2. By encouraging engagement, the interaction is more likely to have a positive influence on the acceptance and long-term adoption of the intervention.

The application of the GPG is discussed in great detail in Chapter Five.

3.7 Conclusion

This chapter introduced humanistic psychology, the foundation of person-centredness (Borg and Karlsson 2017). Following this, the concept of person-centredness was explained, highlighting that it had become the central philosophy in caring for the elderly. I explained that there has been a shift in care models over the last 25 years, resulting in various person-centred care models such as the Lifeworld Approach (Galvin and Todres 2013), the Relationship Care Model (Nolan et al. 2004), and Partnership Approaches (Adams and Clarke 1999).

I reported that the social care field called for research to be conducted in a person-centred manner. Interestingly, this call mirrored the technology literature, which recommended personalisation in Chapter Two. Most importantly, the elements of person-centred care have extended beyond the health and social care field into the technology sector, according to Jacobs et al. (2017). After the fieldwork had been conducted, many papers and textbooks were published that used a person-centred lens for technological interventions, strengthening my argument for employing a person-centred approach in this study.

Following this, I introduced the Person-centred Nursing Framework and the Person-centred Practice Framework (McCormack 2003a; McCormack and McCance 2006; McCormack and McCance 2010b; McCance et al. 2021). These frameworks were discussed in detail. Dewing et al. (2021), McCance (2021), as well as Titchen et al. (2017) and van Lieshout (2013), recommended that researchers create their own person-centred frameworks to meet their specific needs. Consequently, I adapted the Person-centred Nursing Framework to develop the Gerontechnological Principle Guidelines (GPG), a framework more suitable for the care home environment. The GPG consisted of six themes with the key principle of connection. The themes are divided into two groups, one focused on the researcher and the other on the person-centred process. Under the researcher, I identified three themes: communication, self-awareness, and capability. Under the person-centred process, I identified another three themes: knowing the person, empowerment, and authentic engagement. All these themes are explained in detail and referenced back to the literature. This chapter laid the foundation for Chapter Five, where the reader is taken on a journey of undertaking fieldwork using the person-centred lens, where links are made back to the GPG.

The next chapter presents the research methodology and design used for this study, introducing elements such as the study location, participants, data-collection methods, and ethical considerations.

CHAPTER FOUR: RESEARCH DESIGN

This chapter outlines the research design for the study. As discussed in the preamble, this PhD research was part of a larger funded initiative at Falmouth University called eServices on Demand for Residential Care Homes (eSDRCH). The eSDRCH project was partly funded by Superfast Cornwall, involving a partnership between British Telecommunications (BT) and the Cornwall Development Company (CDC). Although the PhD was included in the same funding application, it had separate objectives and employed a different approach. This study initially aimed to explore the impact of handheld tablets on the wellbeing of residents in a care home, particularly regarding connection and social connectedness, with the central research question: How does a handheld tablet intervention impact the wellbeing of older people living in a care home? However, as the research progressed and faced complex environmental challenges, the study shifted from mixed methods to predominantly qualitative approaches using ethnographic methods over an extended period. Consequently, the focus moved to problematising the introduction of the tablets, leading to the development of a second research question: How can a person-centred approach be used to introduce handheld tablets to older people living in a care home? Finally, during analysis and write-up, an autoethnographic element was identified leading to the formulation of a third research question: How does undertaking person-centred research in a care home affect the researcher?

In this chapter, I start by providing the background of the research setting, participants, and intervention. Next, I discuss conducting research in care homes and the ethical considerations involved, such as consent and privacy. Then, I outline the case study, ethnography, and autoethnography methodologies, followed by the methods used for data collection. Finally, I describe the data analysis process and how the data are presented.

4.1 Background to the study

At the start of this chapter and in the preamble, I explained that this PhD was conducted alongside the eSDRCH project due to funding constraints. However, they were separate research studies with different research questions, tested different devices, and used different methodologies. For eSDRCH, the engineers advocated for specific devices to be tested while gathering objective data in the care home environment, using a top-down approach[40] focused on technology. Although I was involved in both aspects, I concluded that the approach taken by eSDRCH was inadequate, leading this PhD study to concentrate on the individual through a bottom-up approach[41]. While the location of the research site was fixed as part of eSDRCH, I was free to go about the PhD study in my own way, for example, in selecting the participants, the technological intervention, and methodology.

4.1.1 The fieldwork

4.1.1.1 Research setting

The care home was one of four owned by a care group. It was situated in a typical seaside village in Cornwall, UK, with a small harbour and promenade. Nearby were a village shop, tearoom, bakery, church, community hall, pub, various small shops, and a school, all bustling with local activity. The beach, a short walk from the care home, featured a beach café, community hub, surf shop, fish-and-chip takeaway, and more. At the start of the study, the home offered both nursing and standard residential care, accommodating up to 24 residents of mixed abilities across two neighbouring buildings. The main building, known as the Harbour Master’s house from the early twentieth century, was made of stone and housed 20 residents in private rooms. The second was a modern bungalow, providing space for four more independent residents with cooking facilities, a living area, and a garden. The main house is shown in Figure 5.

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[40] A top-down approach is where beliefs are pushed down onto someone else without listening to what the person wants – where a technology provider parachutes into an environment with solutions to a problem that they perceive without talking to people on the ground.

[41] A bottom-up approach is when decisions or change come from the ground upward where voices are heard, and nothing is pushed down from the top. This method is used in public health and community development to facilitate change and enable long-term adoption. Examples are public health initiatives (such as education around malaria, women’s health and vaccinations) and local community development projects (such as the Connected Communities in the Beacon Estate, UK).

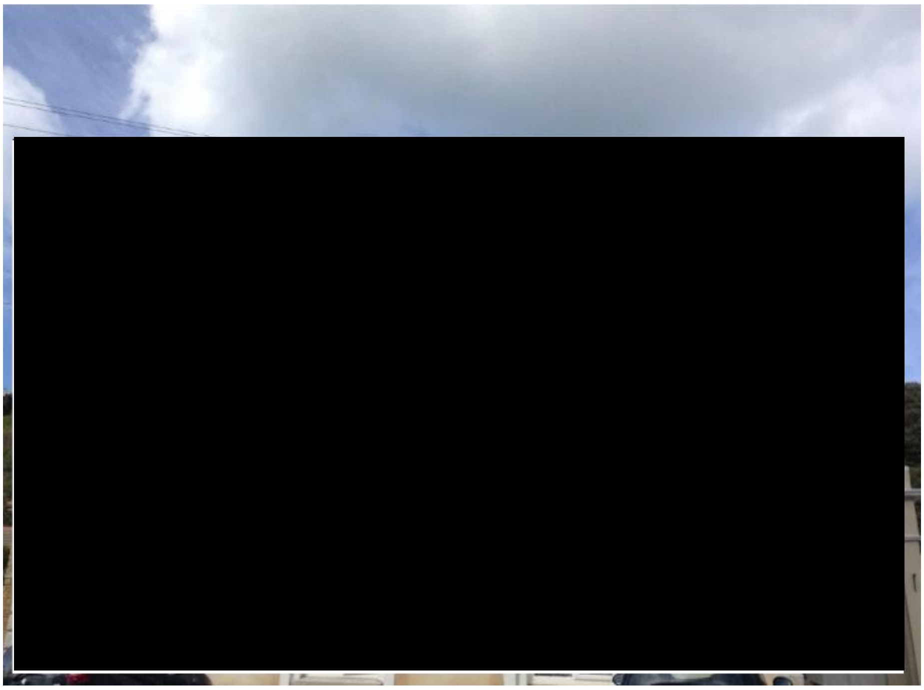
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Figure 5: Residential care home

(Photo: Harvie 2014)

4.1.1.2 Participants

When this study commenced, there were 24 residents living in the care home, with approximately 50% exhibiting some form of cognitive impairment (dementia or another condition). Residents had varied levels of needs and abilities, with some able to leave the care home on foot, on a motorised scooter, or with the aid of a walking frame to visit local amenities. Others were housebound, moving slowly, or even bedbound. Several residents were physically and mentally healthy, keeping up with current affairs, reading, and enjoying meaningful conversations; others communicated little due to poor health, whether mental or physical, such as limited hearing. A total of six residents volunteered. All were accepted into the study. Other residents had access to handheld tablets and received some support in using them, but they were not included due to cognitive decline. I had hoped more residents would volunteer; however, only half of the residents (12 in total) were eligible because others experienced cognitive decline. Of that group, six volunteered, highlighting the challenges other researchers face when recruiting from this 'hard to reach' group, resulting in a small sample size (Bowen et al. 2009; Neves et al. 2018). In Chapters Five and Six, the residents and care home environment are described in greater detail.

Participants’ technical abilities were varied:

- Computer use – three participants had a laptop or desktop and could send emails. The remaining three had never used a computer.
- Mobile phone use – five out of six participants had a basic mobile phone, with one of these being able to send a text message, and two rarely used their mobile phones. The remaining participant did not have a mobile phone and had never used one (she relied on the care home landline to communicate).
- Handheld tablets use – none of the participants owned a handheld tablet, and none had used a handheld tablet.

4.1.1.3 The intervention

The initial aim of the research was to evaluate the impact of handheld tablets on the wellbeing of a group of older people living in a care home. Specifically, the focus was on the connectivity aspect of wellbeing, namely connecting with other people, community, and society. The fieldwork was conducted using a person-centred lens, with the theory explained in Chapter Three and the application detailed in Chapter Five.

The intervention consisted of three components: hardware, software, and training on how to use the device. All three are discussed below, with more detailed information on the application of the intervention provided in Chapter Five. As outlined in Chapter Two, handheld tablets were selected as the hardware intervention, following recommendations from other researchers (Haikio et al. 2007; McLaughlin et al. 2009; Wherton and Prendergast 2009; Upton et al. 2011; McDonnell 2012; Waycott et al. 2012; Findlater et al. 2013; Jones et al. 2013; Tsai et al. 2015; Tsai et al. 2017; Vaportzis et al. 2017b; Neves et al. 2018; Coghlan et al. 2021; Neves and Mead 2021; Hussain et al. 2024). Owing to its lightweight and highly interactive nature, with options for customisation, an eight-inch Samsung Galaxy Tab 3 was selected for this study. Additionally, these smaller eight-inch tablets were recommended by a Which technology review (www.which.co.uk) as ergonomic and offering good value for money.

Following recommendations from other researchers, each resident would have access to a handheld tablet (Otjacques et al. 2010; McDonnell 2012), regardless of mental capacity, thereby excluding no one. Twenty-four handheld tablets and 24 multi-coloured cases, shown in Figure 6, a canon printer with ink cartridges and photographic paper was purchased for the care home. As part of the eSDRCH project, BT installed Wi-Fi at the care home, giving residents the freedom to use devices across the house. The freedom to move around the care home and use devices wherever residents felt comfortable was recommended by several researchers (Otjacques et al. 2010; McDonnell 2012). For those struggling with the touchscreen, a stylus was available.

The software element included any applications available for the Samsung tablet. Some were free, while others required a small fee from the Play Store. As part of this study, we had access to Google Play vouchers, which could be used freely to purchase eBooks or applications such as games. A selection of the following applications was downloaded across the participants: email, internet, BBC iPlayer, Google Books, Cornwall Libraries, Facebook, Zinio eMagazines, YouTube, Sudoku, Crosswords, Daily Quiz, Skype, and TED Talks. The applications were chosen based on the needs and abilities of participants. The selection of applications is discussed in more detail in Chapters Five and Six.

Figure 6: Handheld tablets with colourful cases
(Photo: Harvie 2014)

The third and final element of the intervention was training, which some researchers identified as the most critical element of a technological intervention (Waycott et al. 2012; Barnard et al.

2013; Chan et al. 2016; Friemel 2016; Bets et al. 2017; Tsai et al. 2017; Vaportzis et al. 2017a; Birkland 2019; Jin et al. 2019; Neves and Mead 2021; Balki et al. 2023; Vercruyssen et al. 2023). The intervention was matched to participants' needs (Hitch et al. 2017) and introduced with respect and care (Thach et al. 2023) in line with the GPG introduced in Chapter Three. A variety of training methods were used, such as scaffolding[42] (Waycott et al. 2012), detailed how-to-do notes (Delello and McWhorter 2017), demonstrations, trial-and-error through play, and more. The training was personalised for each participant in accordance with the GPG. In-depth details of personalisation and training are included in Chapters Five and Six.

4.2 Undertaking fieldwork in a care home environment and ethical considerations

4.2.1 Undertaking fieldwork in a care home environment

In preparation for conducting research in a care home setting, I explored other researchers' experiences, which highlighted the demanding nature of this type of research. Along with deep immersion in the environment and employing a person-centred perspective, ethnographic methods were utilised to gather data through observations, interviews, informal conversations, photographs, and diary entries and reflections. Additionally, questionnaires were employed to collect quantitative data. Many of the recommendations from other researchers align with the person-centred approach outlined in Chapter Three and implemented in Chapter Five. These recommendations are provided below.

Preparation is essential; Evans (2008) recommends undertaking some preliminary fieldwork as a visitor before beginning a study in a care home environment. This is echoed by van Lieshout (2017: 178), who states that 'a key finding in my study is the importance of preparatory groundwork by a facilitator and their system of support, to avoid entering a practice setting too soon'. Researchers must prepare themselves to witness cognitive and physical fragility and to 'bear witness' to situations they may find emotionally distressing (Brown-Wilson 2007; Dickson-

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[42] 'Scaffolding is a term used to describe the mentoring and guidance provided in a partnership where one person learns a new skill with the support of another' (Waycott et al. 2012: 645)

Swift et al. 2007; Dewing 2009). Researchers frequently underestimate the time required to work with those living in care homes and, as a result, rigid data-collection designs are likely to cause stress (Luff et al. 2011). Many researchers using a person-centred model recommend a flexible approach (McCormack 2003a; Brown-Wilson 2007; Jacobs et al. 2017b; van Dulmen et al. 2017a). Researchers must be open-minded about set objectives due to extreme circumstances such as death, infection control and staff time pressures (Luff et al. 2011; Lam et al. 2018), and residents' fluctuating health is likely to impact their availability to participate (Gordon et al. 2014). A flexible approach enables the research to change tack if need be, such as adapting research questions or changing data collection methods. Taking the above into consideration, I adopted a flexible approach and began visiting the care home before the study began.

According to many researchers, recruiting in a care home setting can be challenging due to ethical concerns, declining health, and limited life expectancy (Hall et al. 2009; Neves et al. 2018). Researchers may be perceived as a threat in this sensitive environment (Lee and Renzetti 1993; Ashburner 2005), making it necessary to build trust. Strong relationships and rapport are vital for a successful outcome, as time must be spent getting to know residents and carers, which helps people feel comfortable sharing their time and energy (Daly 1992; Higgins 1998; Luff et al. 2011; Goodman et al. 2012). Relationship building is a core aspect of person-centred research and a key theme of GPG, as introduced in Chapter Three. However, some researchers question the ethics of using friendship as a method (Duncombe and Jessop 2002; Owton and Allen-Collinson 2014; Kara 2022). Duncombe and Jessop (2002: 3) note that the boundaries between genuine and superficial friendships can become blurred in longitudinal studies and that 'researchers using their interpersonal skills to create rapport with a participant as a means to an end is actually quite manipulative'. The traditional paradigm generally calls for a separation between the participant and researcher, based on the idea that personal involvement could bias the research, disrupt the setting, or contaminate the results (Douglas and Carless 2012).

In contrast, many researchers believe that emotional involvement and reflexivity can offer valuable insights for ethnographic researchers, rather than representing a methodological challenge (Hochschild 1983; Brackenridge 1999; Carolan 2003; Hoffman 2007; Owton and Allen-Collinson 2014). The friendship approach seeks to reduce the hierarchical divide between participant and researcher (Tillmann-Healy 2003) and is supported by an ethic of care that promotes emotion, empathy, and expressiveness between both parties (Fine 1994; Tillmann-

Healy 2003; Mounce 2018; Jack 2022; Jack et al. 2019). According to Ellis (2007), friendships should be an investment in which the roles of researcher and friend expand and deepen mutually. Several scholars suggest employing life stories as a strategy for engaging with this older age group (Stake 2006; Dewing 2009; Froggatt et al. 2009). Researchers must be active listeners, show empathy, exercise patience, remain flexible, and be capable of making ethical judgements (Luff et al. 2011; Jack 2022). Furthermore, power dynamics will shift between researcher and participant during fieldwork (Hoffman 2007). Hertz (1997) urges researchers to be mindful of their own positions and interests, as concerns about the power held by the researcher highlight the importance of reflexivity aimed at rebalancing power relations between researcher and participants (Finlay 2003; Jacobs et al. 2017b). A reflexive researcher critically examines all stages of the research process and interrogates the construction of knowledge (Finlay 2003).

Undertaking fieldwork in a care home environment is demanding on the researcher:

> This research setting is emotionally demanding; thus, it should be anticipated by those leading the research that distressing current or past personal circumstances, such as experiences of ill health or loss of family, could surface for researchers while undertaking research. Assuming that researchers leave their private lives at the door is not realistic or helpful in this emotionally complex and challenging context. Researchers could be encouraged to keep reflective diaries during the course of their research to capture their own emotional response to the issues raised. This can help them reflect on the impact of their emotion on the research itself and on themselves. (Luff et al. 2011: 7)

Emotional labour is the complex interplay of emotional expressions and personal feelings, referring to the process of managing these expressions and feelings to meet the emotional demands of the research (Hochschild 1983). The main components of emotional labour include surface acting (faking emotions to appear friendly) (Duncombe and Jessop 2002; Owton and Allen-Collinson 2014), deep acting (genuinely experiencing the emotions), emotional dissonance (conflict between feelings and required expressions leading to burnout) (Dewing 2009), and display rules (appropriate emotions dictated by the context). Emotional labour becomes particularly significant when engaging in deep immersion within a research environment. According to Kleinman and Copp (1993), researchers who act without awareness of emotional labour and their own emotions are more heavily influenced by these factors. Luff et al. (2011) suggest that researchers should reflect on their perceptions of care homes, which will assist in understanding how they feel about those who work in, reside in, or visit care homes, as well as how they might be viewed themselves. Dewing (2009) advises that researchers should reflect on their experiences throughout all stages of the research process, maintain a reflective journal where they consider both their own ageing and the ageing of others, and ensure that emotional support is provided for researchers.

While the sensitivity of research is predominantly viewed as an ethical issue focussed on participants (Alty and Rodham 1998; Rager 2005; Watts 2008b), the impact on researchers is less well documented. Consequently, some researchers call for a review of the emotional effects on researchers themselves (Dickson-Swift et al. 2007). Dickson-Swift et al. (2007) recommend self-care to minimise harm to researchers and to prevent them from carrying the research stories with them, which can harm mental wellbeing (Warr 2004; Mounce 2018). The reflexivity, emotional labour, and deep immersion in the research environment highlighted an autoethnographic element, leading to the formulation of a third research question: How does undertaking person-centred research in a care home affect the researcher?

The above recommendations heavily influenced the methodology, fieldwork, and analysis methods.

4.2.2 Ethical considerations

Researchers working in social care with human subjects must conduct ethically sound research (Blaxter et al. 2001; Watts 2008a; Marshall and Rossman 2010) and ensure that the rights, safety, dignity, and wellbeing of participants are protected (Department of Health 2005). All research conducted in social care settings in England must be approved by a Research Ethics Committee (REC) or the Social Care Research Ethics Committee (SCREC), as participants are deemed to lack capacity under Section 30 of the Mental Capacity Act 2005 (Department of Health 2005).

Due to the nature of this environment and the participants, this study was granted ethical approval by the Falmouth University Ethics Committee in February 2014. The parameters were to include only those residents who had full mental capacity and fell outside the Mental Capacity Act 2005 (Keeling 2011; Mental Capacity Act 2005 Chapter 9). According to Dewing (2009), including people in research who fall under the protection of the Mental Capacity Act can be advantageous for them, and these individuals should not automatically be excluded from research. Echoing this, there is an increasing recognition in the fields of social gerontology, nursing, and social care that encourages the inclusion of people with dementia in research (Downs 1997; Gillies 2002). While I believed that all residents would benefit from participating in the research to access the training support, this study was connected to the eSDRCH project, in which a last-minute decision was made to revoke their application to SCREC and instead submit it to the Falmouth University Ethics Committee. This decision laid the foundation for excluding residents who fell under Section 30 of the Mental Capacity Act 2005. To address the issue of exclusion, it was decided that all residents would have access to the handheld tablets and receive assistance from a staff member at the care home.

Alongside the above formalities, as a researcher at the University, I completed the standard Criminal Records Bureau (CRB) check and was officially cleared. I was fully aware of the sensitivity involved in conducting research within a residential care home environment and strictly adhered to the four main principles of voluntary participation: informed consent, no harm, anonymity, and confidentiality (De Vaus 2001). I agreed with the maxim ‘treat the client as you would like to be treated’ (Altendorf and Schreiber 2015: 38), which complemented the person-centred approach.

4.2.2.1 Informed and ongoing consent

To obtain consent, participants must be provided with information to assist them in making an informed decision about their participation (Kenkmann et al. 2010). Informed consent is defined as:

> The provision of information to participants about the purposes of research, its procedures, potential risks and alternatives, so that the individual understands the information and can make a voluntary decision whether to enrol and continue to participate. (Emanuel et al. 2000: 2703)

Obtaining consent encompasses voluntariness, competency and information (Cohen-Mansfield et al. 1988). To achieve this, I devised an information sheet (APPENDIX 3) and consent form (APPENDIX 2). Following guidance from the National Institute for Health Research, the Social Care Ethics Committee and the School for Social Care Research, the information was presented clearly and concisely using a large font – Arial size 16 (Ferreira 2009; Hall et al. 2009; Luff et al. 2011; Davies 2013). Gaining informed consent in a care home environment is an ongoing process due to fluctuations in residents’ mental capacities (Madjar and Higgins 1996; Usher and Arthur 1998;

Dewing 2002; Iliffe et al. 2008). Consent should not be regarded as static with this age group (Luff et al. 2011).

4.2.2.2 Negotiating access

With my involvement in eSDRCH, I spent time in the care home before beginning the fieldwork for this PhD study. During this period, and through extensive reading on research in care homes, I came to understand and accept the sensitive and challenging nature of that environment. In line with recommendations from other researchers and the person-centred approach, I needed to gain the trust of both residents and carers before I could start recruiting participants (Luff et al. 2011). Consequently, I discussed my concerns with the care home manager and was introduced to Jackie, the activities coordinator, who acted as the gatekeeper (Creswell 1998; Luff et al. 2011; Franz and Neves 2019). Jackie was responsible for facilitating a safe introduction to residents deemed suitable as participants. This will be explored in more detail in Chapter Five.

4.2.2.3 Selecting participants

In accordance with ethical guidelines, I employed non-probability sampling (Babbie 2013) and combined handpicked and volunteer sampling methods (O'Leary 2012). This aligns with case study methodology, where cases are deliberately chosen to enhance the study's value (Stake 2006; Simons 2009; Yin 2014). When a resident expressed interest in participating, I only proceeded if care home staff confirmed that the resident did not fall under the restrictions of the Mental Capacity Act. At the outset of the fieldwork, there were 24 residents in the care home, with 12 subject to the Mental Capacity Act, leaving 12 eligible for participation.

4.2.2.4 Privacy

For confidentiality reasons, raw data such as my journal, interview transcripts, and questionnaires will not be made available to the public. Additionally, sensitive issues were omitted from this thesis. I used pseudonyms to safeguard participants' identities.

4.3 A mixed-method approach

Initially, this study aimed to explore the impact of using handheld tablets on the wellbeing of older people living in a care home over a 12-month period and to answer the following question: How does a handheld tablet intervention impact the wellbeing of older people living in a care home? However, as the research progressed and due to complex environmental challenges, the study shifted from mixed methods to predominantly qualitative approaches using ethnographic methods over a longer period. Consequently, the focus moved to problematising the introduction of the handheld tablets, leading to the development of a second research question: How can a person-centred approach be used to introduce handheld tablets to older people living in a care home? Finally, during analysis and write-up, an autoethnographic elements was identified leading to the formulation of a third research question was identified: How does undertaking person-centred research in a care home affect the researcher?

The objectives included: to assess the impact of using handheld tablets on the wellbeing of the participants, to introduce the handheld tablets using a person-centred approach, and record and report on using this approach, and finally to report on the impact of the research using a retrospective autoethnographic lens.

The initial study utilised a mixed methodology. Quantitative methodologies have long been used in the social sciences, but in the mid-1990s, a shift occurred, and qualitative methodologies began to be viewed positively within the health and health sciences fields (Pope and Mays 1995). According to Borglin (2015), mixed-method studies increased from 17% of all studies in health services research in the late twentieth century to 30% in the twenty-first century. I followed advice from other researchers who argued that combining methods was complementary and mutually reinforcing (Munhall and Boyd 1993; Bourgeault et al. 2013), especially when working with older participants (Jones et al. 2013; Vaportzis et al. 2017b). Additionally, some researchers contended that using a single paradigm could be an excuse for avoiding creative thinking in research (Silverman 2000; Weitzman and Levkoff 2000). Study designs within mixed methods are not set in stone, and there is no consensus in the research community on how to define it or what it entails (Teddlie and Tashakkori 2009; Creswell and Plano Clark 2011). After reviewing various methodologies, I concluded that rich observational data would be gathered through qualitative methods, complemented by quantification via quantitative approaches.

A study published after the fieldwork by Jacobs et al. (2017a) reviewed literature on technology from a person-centred perspective in healthcare and showed that a flexible mixed methodology was essential. Jacobs et al. (2017a: 66) employed participant observation, interviews, and focus groups to gain 'insight into the central question as to how relationships change in and through technologies', arguing that quantitative studies do 'not reveal subtle changes in relationships, empowerment, dignity, autonomy and/or safety from a person-centred perspective'. This further affirms my choice to adopt a mixed methodology. As explained previously, if researchers build a close relationship with the research using an 'inside and user-perspective', it can help them to understand the 'complexity and dynamics within practice' (Jacobs et al. 2017a: 66). The development of close relationships was included as a theme in the GPG in Chapter Three.

Taking advice from other researchers, I examined the key features of a qualitative approach, given that this fieldwork taking place in a natural setting with the opportunity for deep immersion within the environment. This is supported by other researchers, specifically Denzin and Lincoln (2000: 3) in the quote below:

> Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings and memos to self. At this level, qualitative research involved an interpretative naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of or to interpret phenomena in terms of the meanings people bring to them.

I investigated a range of qualitative methodologies, which included grounded theory (Strauss 1987), phenomenology (Larkin, Watts and Clifton 2006; Smith et al. 2009; Larkin et al. 2011), ethnography (Hammersley and Atkinson 1995; Watts 2008a; Mounce 2018), autoethnography (Adams et al. 2017; Silverman 2000; Chase 2005; Humphreys 2005; Dewing 2009), narrative research (Riessman 1993; Hiles and Cermak 2008), user-centred design with the ideas of using personas (Rodgers and Milton 2011; Norman 2013; Ideo 2015) and participatory methods (Whyte et al. 1991).

In reviewing these methodologies, I gained an understanding of several approaches I used in this study to provide a detailed picture of lifestyles, interactions, and behaviour in the care home (Creswell 1998; Atkinson et al. 2001; Goodley et al. 2004; Wolcott 2009; Desmarias 2016). I examined many studies, particularly those involving handheld tablets as outlined in Chapter Two (for example, Barnard et al. 2013; Baecker et al. 2014; Delello and McWhorter 2017; Neves et al. 2018). Several of these studies employed case study methodology and identified as mixed-method studies (Delello and McWhorter 2017), qualitative studies (Abraham et al. 2009), and qualitative studies using ethnographic tools (Juul et al. 2019). Additionally, a study by Niemeijer et al. (2015) utilised ethnographic methodology to explore the impact of surveillance technology in a care home. I concluded that qualitative methods were suitable for this research.

After reviewing methods and methodology, I concluded that a case study approach using mixed methods was most appropriate for this study because the case itself is the focus, allowing for an in-depth examination from multiple perspectives (Stake 1995; Creswell 2003; Luck et al. 2006; Flyvbjerg 2011; Thomas 2011; Yin 2014; Mills et al. 2017). The upcoming sections will detail each of these approaches.

4.3.1 Case study

Within the field of case studies, there are several prominent schools of thought, including Yin (2014), Stake (1995, 2006), and others such as (but not limited to) Merriam (1988), George and Bennett (2005), Simons (2009), and Flyvbjerg (2011). When employing a case study methodology, it is essential to select a methodological position carefully to ensure coherence between the philosophical position, research question, design, and methods (Luck et al. 2006; Baxter and Jack 2008; Mills et al. 2017). Yin (2014) adopts a realist postpositivist perspective, conceptualising the case study methodology as a form of social science. His emphasis is on maintaining objectivity within the methodological process using a realist outlook (Mills et al. 2017), and he highlights triangulation to prevent errors. Stake (1995, 2006) employs an interpretivist and constructivist approach, focussing on discovering meaning and deeply understanding experiences within their context (Mills et al. 2017). Stake considers the researcher to be interactive in the study, shaping the experience, activity, and interpretation of the case (Stake 1995; Mills et al. 2017). The researcher is regarded as a partner with participants in the quest to discover and generate knowledge (Stake 1995; Mills et al. 2017). Stake (1995) also advocates for findings to be thematically organised. His view aligns with a person-centred approach, where the individual is the focus (van der Cingel et al. 2016). Consequently, Stake's approach is utilised in this study, and cases are presented as part of a case series.

One of the key features of a case study is that the researcher observes the field through naturalistic observation, in which 'the case will not be seen the same by everyone else' (Stake 1995: 64). This approach offers flexibility and adaptability in a constantly changing research environment. This is supported by Stake (1995: 9), who states that the researcher is 'one who records objectively what is happening but simultaneously examines its meaning and redirects observation to refine or substantiate those meanings'. This process is known as progressive focusing, where the design can be adjusted if early questions become ineffective or new issues emerge (Stake 1995; Guba and Lincoln 1998; Luck et al. 2006; Simons 2009). This study employed progressive focussing, as the research focus evolved over time, leading to the development of additional research questions. Many researchers recommend a flexible design for conducting research within a care home environment (McCormack 2003a; Brown-Wilson 2007; Jacobs et al. 2017b; van Dulmen et al. 2017a). Case studies aim to capture depth and uniqueness to evoke a sense of the participant, where the researcher uses a range of methods:

> It is an exercise in such depth, the study is an opportunity to see what others have not seen, to reflect the uniqueness of our lives, to engage the best of our interpretive powers, and to make, even by its integrity alone, an advocacy for those things we cherish. The case study ahead is a splendid palette. (Stake 1995: 136)

I cannot discuss the benefits of case study methodology without mentioning some of its recognised limitations. This methodology is known for being time-consuming and costly, with ethical risks significantly higher due to close engagement with participants (Luck et al. 2006). The promotion of a subjective research paradigm by researchers is expected, as 'subjectivity is not seen as a failing needing to be eliminated but as an essential element of understanding' (Stake 1995: 45). Some researchers argue that this method lacks rigour and generalisability and is regarded as biased (Luck et al. 2006), while others suggest that case study methodology focuses more on particularisation than on generalisation (Polit and Beck 2010). Additionally, findings from studies involving older adults are unlikely to be applicable to other cohorts and contexts (George and Ferraro 2016).

4.3.2 Ethnography and autoethnography

Following an examination of the literature, employing ethnographic methods was identified as suitable for collecting qualitative data using methods such as observation (Jones and Somekh 2005), informal conversations (Hammersley and Atkinson 1995), interviews (Dhunpath 2000; Carolan 2003; Selwyn 2004; Pink 2009), guided conversations (Mishler 1986), photographs, and detailed notes in a journal (Rager 2005). Ethnography places the researcher and the personal experiences of participants at the centre. Watts (2008a: 4) explains that 'it seeks to report what is observed and transacted in the field, recounting what was said and done and why events occurred. It is a highly interpretive method and does not claim to represent truth, in any positivist sense, but rather offers accounts of social phenomena that are filtered through the subjective and personal experiences of the ethnographer'. Ethnographers bring life experiences connected to inherited history; therefore, they are not impartial observers (Watts 2008a; Mounce 2018). Incidentally, Peine and Neven (2021) call for ethnographers to share their rich insights to inform design decisions.

Later in the analysis and write-up, an autoethnographic element was identified. Autoethnography is a methodology that uses personal experiences to describe cultural texts, beliefs, experiences, and practices, where researchers engage in rigorous self-reflection, known as reflexivity (Ellis and Bochner 2000; Humphreys 2016; Adams et al. 2017; Spry 2018; Parsons and Chappell 2020). The identification of this autoethnographic element was due to the substantial volume of self-reflection in my journal. It was not planned at the outset of the study; therefore, the reader must forgive any inaccuracies resulting from the retrospective application of this methodology. Autoethnography is the intersection of ethnography and autobiography (Parsons and Chappell 2020). It emphasises the personal experience of the researcher (Adams et al. 2017: 3). The aim of autoethnography is 'to articulate insider knowledge of cultural experience' (Adams et al. 2017: 3), creating accessible texts for audiences outside academic settings. Ellis (2004: 37) describes the work of an autoethnographer:

> Back and forth, autoethnographers gaze: First, they look through an ethnographic wide-angle lens, focusing outward on social and cultural aspects of their personal experience; then, they look inward, exposing a vulnerable self that is moved by and may move through, refract, and resist cultural interpretations. As they zoom backward and forward, inward and outward, distinctions between the personal and cultural become blurred, sometimes beyond distinct recognition.

Autoethnography requires reflexivity, where the researcher documents the research process and situates themselves within the research (Richardson and Lockridge 2004; Dickson-Swift et al. 2008). According to Jacobs et al. (2017a), the concept of reflexivity is closely linked with the critical reflexivity of a person-centred researcher concerning power dynamics in relationships. This is incorporated into the self-awareness theme in the GPG.

Many of the prerequisites for ethnography and autoethnography are addressed in earlier sections, including establishing trust and rapport (Higgins 1998; Daly 1992; Luff et al. 2011; Goodman et al. 2012), the blurring of boundaries with the researcher in multiple roles as both researcher and volunteer (Hochschild 1983; Brackenridge 1999; Hoffman 2007; Owton and Allen-Collinson 2014), the development of emotional capacity (Brown-Wilson 2007; Dickson-Swift et al. 2007; Dewing 2009), emotional labour (Hochschild 1983), and the ethical considerations of conducting research in this sensitive environment (Hyett et al. 2014).

4.3.3 Methods

I used various methods to gather both qualitative and quantitative data. These methods include interviews, questionnaires, photographs, information discussions, observations, and journal writing.

4.3.3.1 Interviews

Interviews are a good source of data collection and enable participants to discuss matters in a focused manner, highlighting beliefs, opinions, experiences and values (Dhunpath 2000; Selwyn 2004; Pink 2009). According to Hammersley and Atkinson (1995), interviews generate information that can be difficult or impossible to collect using other data collection methods. Initially, I planned to conduct three interviews per resident (at the start, middle, and end points), but I encountered several challenges, and therefore, the interviews became sporadic, as discussed in Chapter Five. All the participants chose to conduct interviews in the privacy of their bedrooms with the doors closed. In addition, interviews were conducted with Maggie (the care homeowner) and Jackie (the activities coordinator). The first round of interviews was semi-structured with a list of open-ended questions, as recommended by other researchers (Hiles and Cermak 2008; Silverman 2011; Jones et al. 2013; Tsai et al. 2017; Neves et al. 2018). The interviews were recorded and transcribed into Microsoft Word, and the transcripts were used as sources in this thesis. All quotes are unedited and presented *sic erat scriptum*[43] for authenticity, and therefore include some errors.

4.3.3.2 Questionnaires

Questionnaires served as another data collection method. I examined various questionnaires, mainly focusing on wellbeing and social aspects. These included the World Health Organization Disability Assessment Schedule 2.0 (Üstün et al. 2010), Social Provision Scale (SPS-10) (Cutrona and Russell 1987), Older People's Quality of Life Questionnaire (OPQOL-35) (Bowling et al. 2015), Operational Measure (CASP-19) (Wiggins et al. 2004), Capability Measure for Older People (ICE CAP-0) (Grewal et al. 2006), Model of Human Occupation Screening Tool (MOHOST) (Kielhofner 2008), and Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) (Tennant et al. 2007; Putz et al. 2012).

However, I found that the above questionnaires were unsuitable in their entirety for two reasons. Firstly, many were designed for people living in their own homes, rather than specifically for care homes, and therefore several questions were not applicable. Secondly, using a single questionnaire would not collect all the desired data. As a result, I concluded that two questionnaires were necessary – the first being WEMWBS (Tennant et al. 2007, Putz et al. 2012), available in APPENDIX 5, and the second, a customised questionnaire, called Harvie's Questionnaire, available in APPENDIX 4. Harvie's Questionnaire was developed by me with the help of an experienced quantitative researcher based at Falmouth University and included various elements from several of the above questionnaires. It used a 14-point scale, which was converted to a scale out of 100. In addition, I used two additional questionnaires for one participant (Chris) to triangulate findings: the De Jong Gierveld Scale (De Jong Gierveld and Tilburg 2006), available in APPENDIX 7, and the Lubben Social Network Scale (LSNS) (Lubben 1988), available in APPENDIX 6. All participant responses are available in Appendices.

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[43] Latin translating to 'thus it was written' meaning that quotes are unedited and may contain errors. This is the case for all quotes from interviews and journal extracts across the entire thesis.

4.3.3.3 Photographs

Photographs served as another data source; however, I took fewer photographs than planned due to the sensitivity of the environment. Many group photographs include residents with cognitive impairments, and therefore, many cannot be included in this thesis. All photographs in this thesis are used with permission, and in cases where this was not possible, the residents' faces have been obscured.

4.3.3.4 Informal discussions

Informal discussions suited the care home environment, where residents happily opened up during relaxed, unplanned conversations.

4.3.3.5 Observations

Unstructured observations are an effective method, as participants are at ease in their environment (Angrosino and Mays de Perez 2003; Thomas 2011). During the fieldwork, I informally watched residents and recorded these observations in my journal.

4.3.3.6 Journal

According to Hammersley and Atkinson (1995), writing in one's journal during research helps in gaining a deeper understanding and reconstructing the environment. I followed advice from other researchers in the field and noted my emotions, such as sadness, anger, and grief, in my journal (Brown-Wilson 2007; Dewing 2009; Luff et al. 2011; Mounce 2018). Over 100 visits to the care home were documented, with the journal exceeding 65,000 words. Additionally, I recorded personal reflections on ageing and the challenges of conducting research in the care home setting in the journal (Watt 2008). These reflections led to the formulation of a third research question, which focused on the impact of the research on myself as the researcher.

4.4 Data analysis

All actively participating residents died during the data collection phase, and therefore, data collection came to a natural but abrupt close with no chance of member-checking[44] the full dataset. This will be covered in more detail in Chapter Five.

According to Simons (2009), the analysis and interpretation of case study research are two aspects that are least discussed in the literature. With the exploratory nature of this study, I endeavoured to keep an open mind during analysis and avoid imposing the data into pre-existing codes (Atkinson et al. 2001; Babbie 2013; Vaportzis et al. 2018). I employed thematic analysis (Braun and Clarke 2022b), which was recommended in other studies evaluating the use of handheld tablets with older people (Jones et al. 2013; Baecker et al. 2014; Peek et al. 2016; Vaportzis et al. 2017b; Neves et al. 2018; Vaportzis et al. 2018; Neves et al. 2023; van Leeuwen et al. 2023) and other forms of digital technology with older people (van Leeuwen et al. 2023; Wilding et al. 2024).

During the active data collection phase, the data was regularly examined to identify meanings, patterns, links, and associations (Boyatzis 1998; Braun and Clarke 2006; Hiles and Cermak 2008; Braun and Clarke 2022b). The analysis carried out during active fieldwork resulted in progressive focusing (Stake 1995; Simons 2009), which contributed to the development of the second research question. Luff et al. (2011: 32) support this ongoing analysis and note that 'the use of ongoing, concurrent analysis of field notes, interview transcripts and research diaries seems to be a common mechanism for guiding analysis among researchers in care homes'.

Phoenix et al. (2010) established that there is no formula for the 'best way' to analyse participants' stories. They advise viewing data as a narrative, which opens up many possibilities for various analytic strategies. Once all the data was collected, coding[45] was undertaken to

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[44] Member-checking is a form of validation of data in which participants check the data collected by the researcher for accuracy and fairness.

[45] Coding - 'The process of exploring the diversity and patterning of meaning from the dataset, developing codes, and applying code labels to specific segments of each data item.' (Braun and Clarke 2022b: 53)

produce codes[46] and code labels[47] (Braun and Clarke 2022b; Ryan and Bernard 2000). The transcribed interviews were coded in Microsoft Word by highlighting phrases and inserting comments. A hard copy of the journal was coded using different coloured pens and sticky notes. I manually undertook the coding; no software program was used. Several rounds of coding were undertaken, further refining the codes.

The coding was then approached in two ways. Firstly, it was organised based on cases, known as a within-case analysis (Creswell 1998). During this analysis, I employed thematic maps and concept mapping (Simons 2009; Martin and Hanington 2012; Babbie 2013; Lofland et al. 2022) as well as memoing (Silverman 2011; Babbie 2013). Two concept maps are shown in Figure 7 and Figure 8. According to Stake (2006), it is common practice in multiple case study research not to make direct comparisons between cases. In this study, the individual case studies are presented as part of a case series (Hyett et al. 2014; Mills et al. 2017). The six participant cases and my autoethnographic account are available in Chapter Six. Secondly, a cross-case analysis was undertaken to identify themes (Ryan and Bernard 2000; Braun and Clarke 2006; Holloway and Wheeler 2013), which is shown in Figure 9. These themes are detailed in Chapter Seven using the Five Ways to Wellbeing as a structure.

During the analysis and write-up, a third research question was formulated as a result of the extensive self-reflection in my journal. As previously mentioned, I did not set out to examine the research through an autoethnographic lens; therefore, this perspective was applied retrospectively. According to Anderson and Glass-Coffin (2013: 64), analysis of autoethnographic material is particular to the individual researcher 'not only do various autoethnographic scholars collect and interpret their "data" in different ways, but even individually they often improvise and experiment, changing their methods and ways of interpreting their data as they go'. For the analysis of the autoethnographic material, I followed the thematic analysis steps to identify themes and then grouped these themes to reveal my most poignant feelings. The analysis of the autoethnographic material was somewhat chaotic due to the retrospective lens being applied and

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[46] Codes - 'An output of the coding process; an analytically interesting idea, concept or meaning associated with particular segments of data; often refined during the coding process.' (Braun and Clarke 202: 53)

[47] Code labels - 'An output of the coding process; a succinct phrase attached to a segment of data, as a shorthand tag for a code; often refined during the coding process.' (Braun and Clarke 2022: 53)

my lack of prior experience with autoethnography. My autoethnographic account is presented in the case series (Hyett et al. 2014; Mills et al. 2017) in Chapter Six.

Multiple forms of data collection from various sources validated this study through data triangulation, which enabled the cross-checking of relevant and significant sources and issues as recommended by Simons (2009).

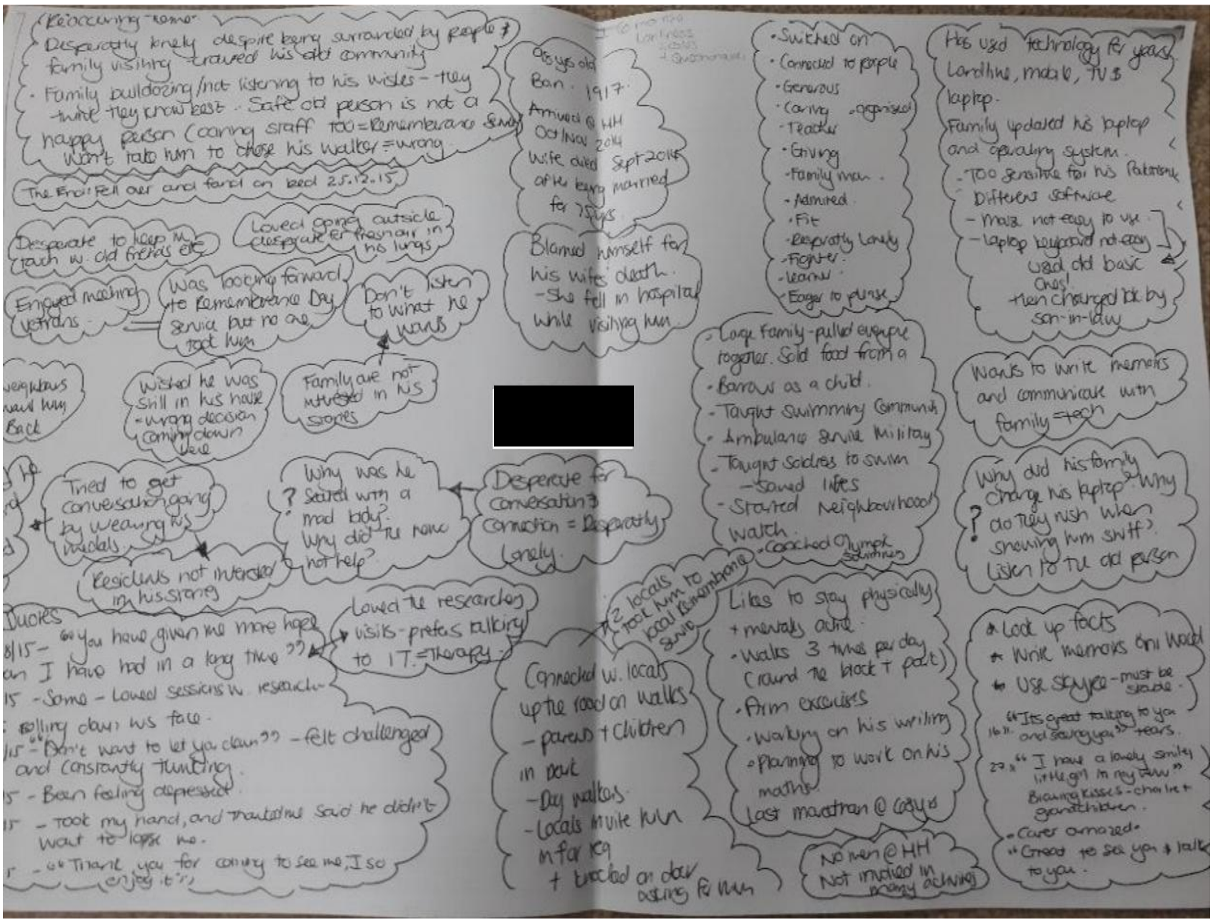
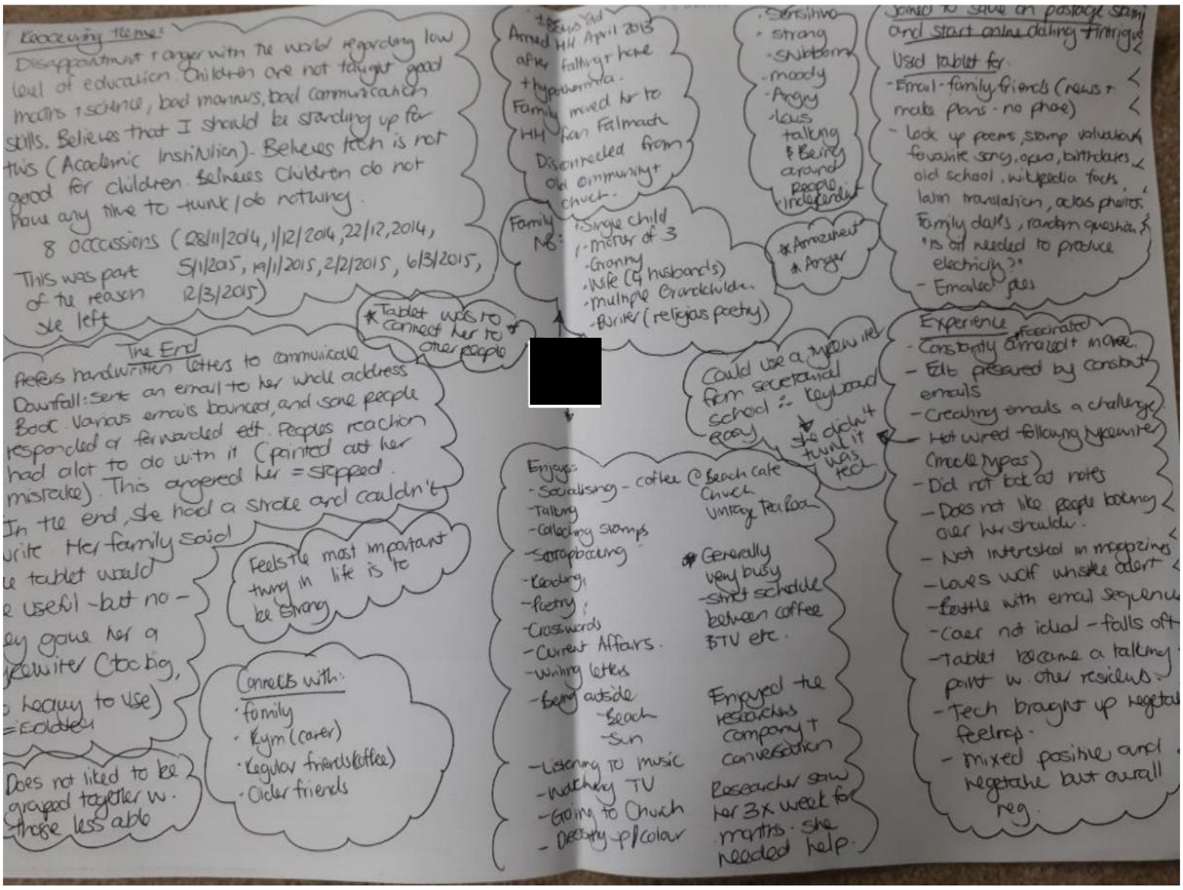


Figure 7: Concept map for Chris

(Photo: Harvie 2015)



Reoccurring theme:
Disappointment + anger with the world regarding low level of education. Children are not taught good morals + science, bad manners, bad communication skills. Believes that I should be standing up for this (Academic Institution). Believes tech is not good for children. Believes children do not have any time to think / do nothing.

8 occassions (28/11/2014, 1/12/2014, 22/12, 2014, 5/1/2015, 19/1/2015, 2/2/2015, 6/3/2015, 12/3/2015)

This was part of the reason she left

*Tablet was to connect her to other people

The End
Prefers handwritten letters to communicate
Downfall: sent an email to her whole address book. Various emails bounced, and some people responded or forwarded etc. Peoples reaction had alot to do with it (pointed out her mistake). This angered her = stopped. In the end, she had a stroke and couldn't write. Her family said
e tablet would
e useful - but no -
ey gave her a
ewriter (too big,
heavy to use)
= [illegible]

Does not liked to be grouped together w. those less able

Feels the most important thing in life is to be strong

Connects with:
- family
- Kym (carer)
- Regular friends (coffee)
- Older friends

1 Bus Yard
Arrived HH April 2013 after falling at home + hypothermia.
Family moved her to HH from Falmouth
Disconnected from old community + church.

Family
NB:
- Single child
- mother of 3
- Granny
- Wife (4 husbands)
- multiple Grandchildren.
- Writer (religious poetry)

[redacted]

- Sensitive
- strong
- stubborn
- moody
- Angry
- loves talking & being around people
- Independent

*Amazement
*Anger

Could use a typewriter from secretarial school ∴ keyboard easy

She didn't think it was tech

Enjoys:
- Socialising - coffee @ Beach Cafe, Church, Vintage Tea Room
- Talking
- Collecting stamps
- Scrapbooking
- Reading;
- Poetry;
- Crosswords
- Current Affairs.
- Writing letters
- Being outside
  - Beach
  - Sun
- Listening to music
- Watching TV
- Going to Church
- Dressing up / colour

* Generally very busy - strict schedule between coffee & TV etc.

Enjoyed the researchers company + conversation

Researcher saw her 3x week for months. She needed help.

Joined to save on postage stamps and start online dating + intrigue

Used tablet for
- Email - family, friends (news + make plans - no phone)
- Look up poems, stamp valuation, favourite song, opera, birthdates, old school, wikipedia facts, latin translation, atlas photos, Family dates, random question "Is oil needed to produce electricity?"
- Emailed pics

Experience
- Constantly amazed + fascinated more.
- Felt pressured by constant emails
- Creating emails a challenge
- Hot wired following typewriter (made typos)
- Did not look at notes
- Does not like people looking over her shoulder.
- Not interested in magazines
- Loves wolf whistle alert
- Battle with email sequence
- Case not ideal - falls off
- Tablet became a talking point w. other residents.
- Tech brought up negative feelings.
- mixed positive and negative but overall neg.

Figure 8: Concept map for Zara

(Photo: Harvie 2015)

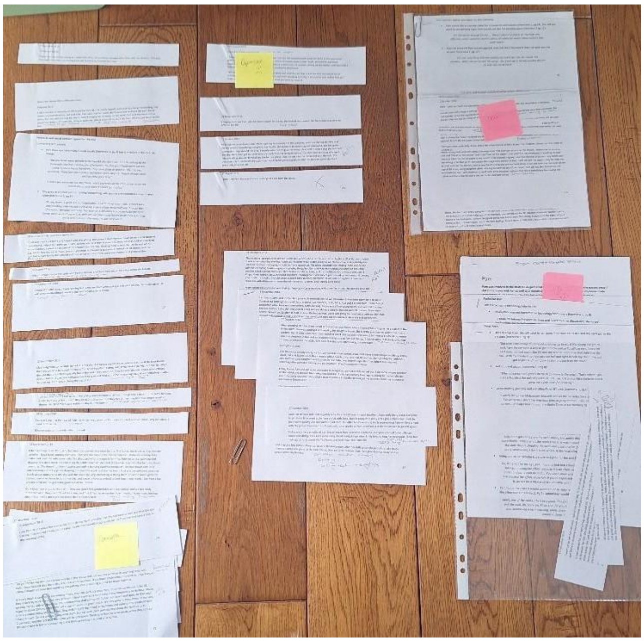


Figure 9: Themes

(Photo: Harvie 2015)

4.5 Presentation of data

The thesis is structured in a social science format, beginning with a literature review and theoretical framework, followed by the methodological underpinnings. It then proceeds to the results, which are presented across three chapters. Finally, it concludes with the discussion. The chapters presenting the results are as follows:

- Chapter Five – I explain the application of the person-centred approach, building an in-depth understanding of how the fieldwork was undertaken. This chapter builds upon the decisions made in relation to the GPG outlined in Chapter Three and the literature reviewed in Chapter Two.
- Chapter Six – I present each participant as a case with supporting photographs, interview quotes, and journal entries, thereby helping the reader see the person behind the case. By giving each participant a voice, this chapter highlights their differences and explains why a one-size-fits-all model fails for this age group. Additionally, I share my own autoethnographic account, which highlights my most poignant reflections during the fieldwork and beyond, offering the reader an understanding of how the research affected me.
- Chapter Seven – I present the themes using the structure of The New Economics Foundation's (NEF) Five Ways to Wellbeing actions (Aked et al. 2008; Michaelson et al. 2012).

4.6 Conclusion

This study initially aimed to explore the impact of handheld tablets on the wellbeing of residents in a care home, specifically related to connection and social connectedness, with the central research question: How does a handheld tablet intervention impact the wellbeing of older people living in a care home? As the research progressed and complex environmental challenges emerged, the study shifted from mixed-methods to primarily ethnographic approaches, leading to the emergence of two additional research questions. One focused on the research design: How can a person-centred approach be used to introduce handheld tablets to older people living in a care home? The other, from autoethnography: How does undertaking person-centred research in a care home affect the researcher?

This chapter outlined the background of the research setting, participants, and intervention. It then introduced relevant literature on conducting research in care homes and ethical considerations such as informed and ongoing consent, negotiating access, selecting participants, and safeguarding privacy. Subsequently, I presented evidence supporting a mixed-methods approach, specifically detailing the case study, ethnography, and autoethnography methodologies. The chapter also covered data collection methods, including questionnaires, interviews, observations, informal discussions, and photographs. Finally, I described the data analysis process and how the data was presented.

The next chapter is the first of the results chapters and presents the application of the person-centred approach.

CHAPTER FIVE: APPLICATION OF THE PERSON-CENTRED APPROACH

This chapter is the first of the results chapters. It presents the application of the person-centred approach, building a detailed picture of the care home environment and outlining the steps taken to work in a person-centred manner, as detailed in the theoretical framework in Chapter Three. The rationale for undertaking this study was presented in Chapter Two, which detailed ageing, wellbeing, connection, care homes and technology as the pillars of the study. Chapter Two then reviewed similar studies and clearly articulated the rationale for addressing the knowledge gap. This led to Chapter Three, which presented a person-centred approach as a theoretical framework. Chapter Four followed with a discussion of the methodology, outlining the study's nuts and bolts. To summarise, initially, this study set out to understand the impact of using handheld tablets on the wellbeing of older people living in a care home, and to answer the following question:

1. How does a handheld tablet intervention impact the wellbeing of older people living in a care home?

However, as the fieldwork progressed, the problematisation of introducing handheld tablets became the focus due to the challenging environment. The study shifted and became focused on the person-centred element using ethnographic methods over a long period. As a result, the study looked to answer a second research question:

2. How can a person-centred approach be used to introduce handheld tablets to older people living in a care home?

Finally, as the data was analysed and the thesis was written up, an autoethnographic element was identified, leading to the formulation of a third research question:

3. How does undertaking person-centred research in a care home affect the researcher?

The objectives are to assess the impact of using handheld tablets on the wellbeing of residents (specifically related to connection and social connectedness), to introduce the handheld tablets using a person-centred approach, and to record and report on the application. Additionally, the research aims to document and report on the impact of the research on myself. This study addresses the gap in existing knowledge between the application of a person-centred method of introducing handheld tablets to older people living in a care home, and the impact on the wellbeing of both the participants and me as the researcher through deep immersion in the environment using ethnographic methods.

The current chapter, Chapter Five, is the first of the results chapters and builds on the thesis by explaining how the research was undertaken. This study used the Person-centred Nursing Framework (McCance and McCormack 2017; McCormack and McCance 2021) as a theoretical underpinning. In Chapter Three, I adapted the Person-centred Nursing Framework to create the Gerontechnological Principle Guidelines (GPG). The six core themes fall under two categories: the researcher and the person-centred process, with the overarching theme being connection. The six themes are:

1. Communication
2. Self-awareness
3. Capability
4. Knowing the person
5. Empowerment
6. Authentic engagement

This overarching theme of connection links to the literature reviewed in Chapter Two, where the Five Ways to Wellbeing model (Aked et al. 2008; Thompson and Marks 2008; Aked and Thompson 2011; Michaelson et al. 2012) was highlighted as the dominant lens for this study. This model maintained that people could improve their wellbeing by connecting with others, being active, taking notice of what's happening around them, continuing to learn, and giving of their time to help others. With many researchers believing that contact is central to the wellbeing of older adults (Gabriel and Bowling 2004; Wilhelmson et al. 2005; Dickinson and Gregor 2006), I investigated the framework by Waycott et al. (2019) for conceptualising older adults' experiences of social connectedness. This framework identified three interrelated dimensions for connectedness that characterise the experience of older people: personal relationships, community connections and societal engagement. This framework is linked to the Five Ways to Wellbeing by encouraging connections across various areas of life.

This chapter describes the fieldwork in detail and links various actions or decisions back to the six themes of the GPG and the literature, thereby answering the second research question (How can a person-centred care model be used to introduce handheld tablets to older people living in a care home?) and two objectives (to introduce the handheld tablets using a person-centred approach, and record and report on the application). At the end of the chapter, the reader will have a good understanding of the application of the person-centred approach, which will set the scene for the subsequent results chapters.

5.1 Setting up the fieldwork

Sources in the literature advise researchers not to enter the care home environment until groundwork has been undertaken (Evans 2008; van Lieshout 2017). At the start of the study, before entering the care home, I conducted extensive reading on undertaking research in a care home setting, as outlined in ‘Undertaking fieldwork in a care home environment’ in Chapter Four. In conjunction with this reading and by adapting the Person-centred Nursing Framework, I created the GPG to guide the fieldwork.

My goal for the planning stage was to develop an understanding of three areas: the physical environment, the staff and the residents. Recommendations from previous researchers (McCormack 2003a; Brown-Wilson 2007; Dickson-Swift et al. 2007; Luff et al. 2011; Jacobs et al. 2017b; van Dulmen et al. 2017a) informed the methodology, including the adoption of a flexible approach and allocation of extra time for fieldwork.

The initial task of the planning stage was to develop further the themes of the GPG that specifically focused on the researcher. My background is in economics, and I have experience in research across ecological public health and wellbeing interventions. From a technology perspective, I have worked with older adults on the largest electronic health record trial in Australia. Additionally, I helped establish a local memory café where people living with dementia could meet. Lastly, I have always been drawn to older people and enjoy spending time with them – they have so much to teach us! With my previous experiences, I felt confident working with participants, which aligned with the third GPG theme – capability – gained through experience, knowledge, and skills (Sundberg 2001).

However, for the skills that needed further development, exploring research in care homes proved extremely valuable and helped me gain insights into essential skills, such as conversational approaches (van Dulmen et al. 2017a), active listening (Hargie 2010; Dickson et al. 2017), and reminiscing (Luff et al. 2011). This preplanning aligned with the first GPG theme – communication – which broadened my understanding of the different forms of communication. As recommended by other researchers, I kept a journal to enhance my self-awareness and record my experiences, thoughts, and feelings (Finlay 2003; Ashburner 2005; Dewing, 2009; McCance and McCormack, 2017; Brown and Tropea 2021). This aligned with the second GPG theme – self-awareness. The principle of self-awareness connects to the autoethnographic aspect, which emerged during the analysis stage and led to the formulation of the third research question. My autoethnographic account is included in Chapter Six.

The second task during the planning stage was to develop the themes of the GPG centred on the person-centred process. I learned from other researchers that gaining an in-depth understanding of the research participants was essential for designing a person-centred intervention (Peine 2019). Conversations played a key role in exploring the past and present through stories, reminiscing, and understanding participants' histories (Stake 2006; Brown-Wilson et al. 2009; Dewing 2009; Froggatt et al. 2009; McCance et al. 2011; Buckley 2017; Neves et al. 2023; Engelbrecht et al. 2024). This aligned with the fourth GPG theme – knowing the person – where I dedicated time to engaging with potential participants and reviewing the literature (McCormack 2003b; Mezzich et al. 2013; van Dulmen et al. 2017b). I aimed to develop a thorough understanding of the participants so I could better personalise the intervention and assist them in using the handheld tablet (Peine 2019). By releasing preconceived ideas and integrating my structured approach with the participants' beliefs and values, I sought to conduct the research authentically, working organically and employing a bottom-up approach as their stories emerged. Strategies included building rapport with residents and care home staff by sharing stories and engaging in activities. This was in line with the sixth GPG theme – true engagement.

5.2 Entering the environment

Initially, I entered the care home as a researcher on the eSDRCH project. The distinction between the wider project and this PhD study was outlined in the Preamble of this thesis. In conversations with management and carers at the care home, it became clear that the goals of the care home and eSDRCH were misaligned. This prompted me to spend time at the care home before formal data collection began, allowing myself to immerse myself in the environment and observe residents' lifestyles, interactions, and behaviours (Creswell 1998; Atkinson et al. 2001; Goodley et al. 2004; Wolcott 2009; Desmarias 2016). The consensus among researchers is that visiting a care home as a visitor prior to commencing research is best practice (Evans 2008; Backhouse and Daly 2021). This approach not only addresses ethical considerations but also improves the quality of data collection and participant engagement. Luff et al. (2015) emphasise the importance of understanding the care home environment and its dynamics, which can only be achieved through direct engagement with the setting before research begins. Such engagement helps researchers identify potential barriers and facilitators to effective data collection and participant recruitment. This period as a visitor helped me gain a practical understanding of what was needed and how these needs could inform my PhD study. The time spent at the care home before starting fieldwork aligned with the sixth GPG theme – true engagement.

To better understand the care home, the manager introduced me to Jackie, the activities coordinator, who regularly worked with residents and was familiar with the carers and environment. Jackie (Figure 10) was warm, caring and kind; we connected immediately and enjoyed each other's company. We spent many hours together; she acted as the gatekeeper (Creswell 1998; Luff et al. 2011; Franz and Neves 2019) for the fieldwork and was also involved in decision-making regarding the technological intervention. A gatekeeper's functions can be categorised into several key areas, including access control, ethical oversight, and participant recruitment (McAreavey and Das 2013). Ironically, Jackie described herself as someone who shied away from technology. She had a mobile phone but rarely answered it, an email address but seldom checked it, and occasionally (with her husband's help) typed up a monthly activities list for residents. Jackie was highly enthusiastic about this study and believed that the handheld tablets had the potential to enrich the lives of care home residents.


[redacted]

Figure 10: Jackie, the activities coordinator and gatekeeper, hosting bingo
(Photo: Harvie 2014)

After spending some time in the care home, and working alongside the manager and Jackie, we agreed on a technology that focused on connection, a key aspect of wellbeing, which led to choosing handheld tablets. The reasons for selecting these devices were explained in detail in Chapter Four, as their functionality can be easily customised to meet individual needs (Otjacques et al. 2010; Upton et al. 2011; McDonnell 2012; Jones et al. 2013; Vaportzis et al. 2017a). We considered ways the device could help residents reconnect with people and services from which they had become isolated after moving into the care home. We brainstormed how the handheld tablet could serve as a tool to provide new opportunities for communication and entertainment. Twenty-four tablets were purchased for the care home and made available to all residents and staff free of charge. To foster an inclusive environment, every resident was given access to a handheld tablet, regardless of whether they participated in the study.

However, before the technological intervention was introduced, Jackie insisted that my initial challenge would be the carers; I would need to gain their trust (Lee and Renzetti 1993; Ashburner 2005). I began helping Jackie with activities such as still life painting (Figure 14), bingo, mural painting (Figure 15 and Figure 16), a tea dance, journal club (Figure 13), Christmas decoration making (Figure 11), pumpkin carving (Figure 17), book club, poetry club, clay making (Figure 18), meeting animals (Figure 12 and Figure 19), and more. I hoped that my active role (Figure 20 and Figure 21), one in which I was involved in activities such as cutting paper for journal club, or mixing paints for still life painting, would encourage the carers and residents to feel at ease, see me as a team member or friend and help build a strong rapport, as recommended by other researchers (Higgins 1998; Tillmann-Healy 2003; Dickson-Smith et al. 2007; Luff et al. 2011; Goodman et al. 2012). This aligns with the sixth GPG theme – true engagement – where I was required to be open and genuine while developing an understanding of the environment (Daly 1992; Heron 1999; Lawler and Ashman 2012).

As time passed, I began helping Jackie with outings to various tea rooms (Figure 22), nurseries and National Trust properties. On these excursions, we had six to ten residents, and we used the Age UK bus for transportation. Occasionally, a handful of residents from one of the other care homes within the care group would join these excursions. The interactions during these activities, outside the care home boundary, helped me build a good understanding of the different personalities, identify individual needs, develop practical communication approaches, and ultimately, build friendships. These activities are linked to the Five Ways to Wellbeing model and the social connectedness framework, allowing residents to actively engage in activities (either at the care home or on excursions) and connect with others, their community, and society.

Relaxed conversations with residents during the activities aligned with the fourth GPG theme – knowing the person (Brown-Wilson et al. 2009; McCance et al. 2011, Mezzich et al. 2013; Buckley 2017; van Dulmen et al. 2017a). As recommended by several researchers, I kept a journal in which I recorded details of my interactions with residents and care home staff, the activities I was involved in, and my reflections (Ashburner 2005; Dewing 2009; Luff et al. 2011). This aligned with the second GPG theme – self-awareness – where I conducted self-reflection by maintaining a journal to enhance my self-awareness (Brown and Tropea 2021).

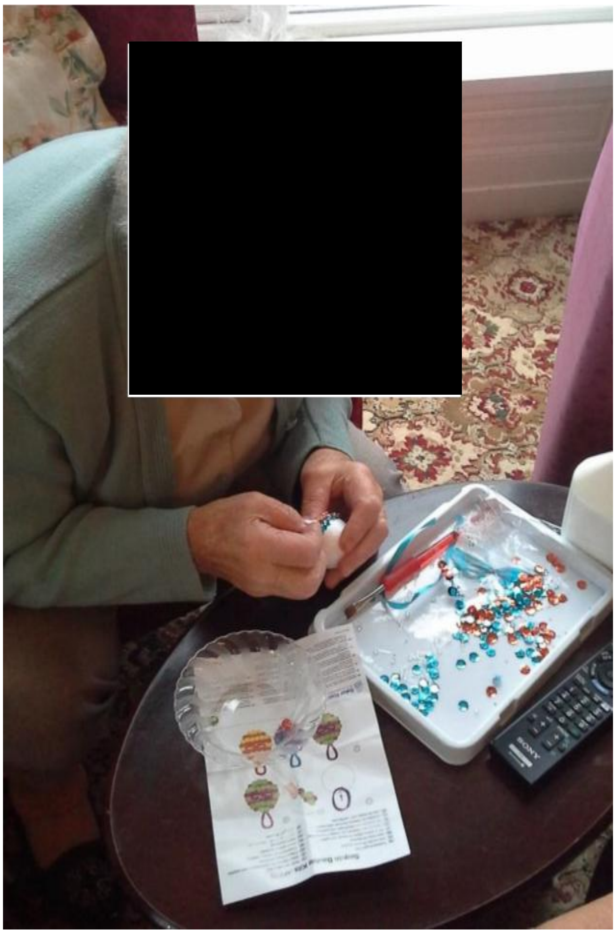

[redacted]

Figure 11: Christmas decoration workshop

(Photo: Harvie 2014)

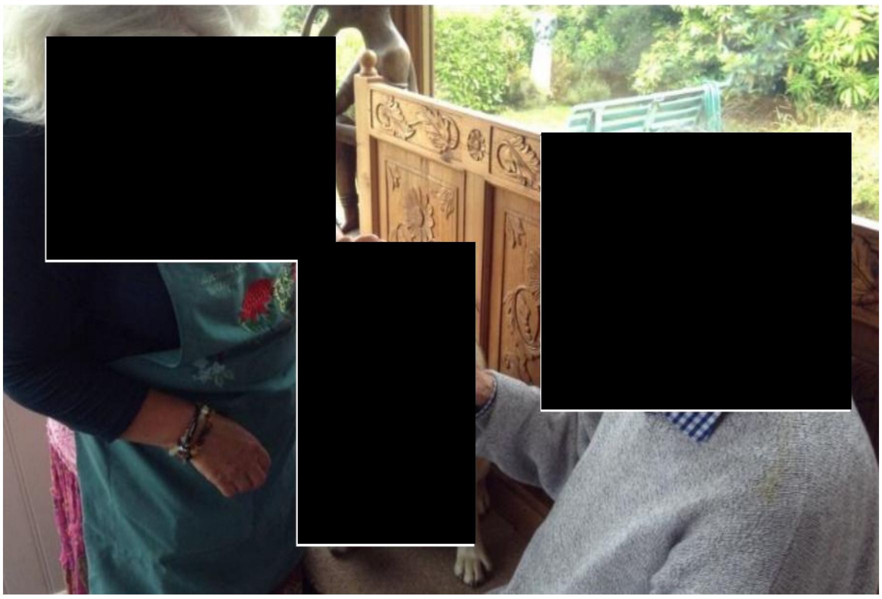

[redacted]
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Figure 12: Jackie introducing her dog to a resident

(Photo: Harvie 2014)

Figure 13: A journal club creation

(Photo: Harvie 2014)

[redacted] [redacted] [redacted]

Figure 14: Artwork from still life painting workshop

(Photo: Harvie 2014)


[redacted]
[redacted]

Figure 15: Getting involved in painting the mural

(Photo: Skews 2014)


[redacted]

Figure 16: A resident painting the mural

(Photo: Harvie 2014)

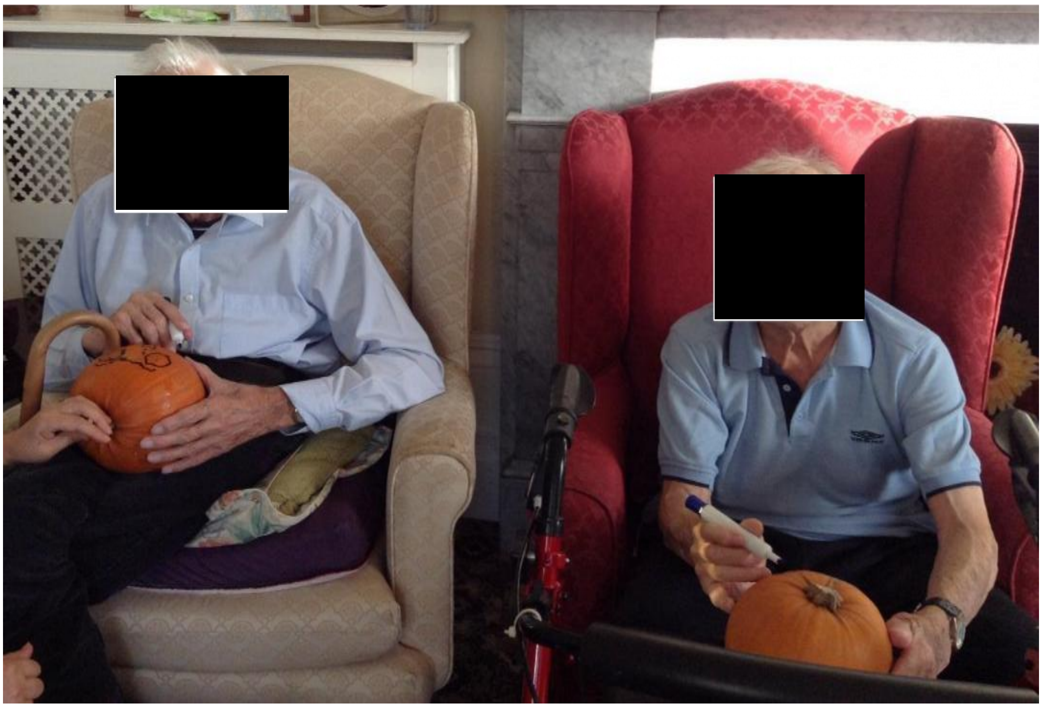


Figure 17: Residents involved in pumpkin carving for Halloween

(Photo: Harvie 2015)

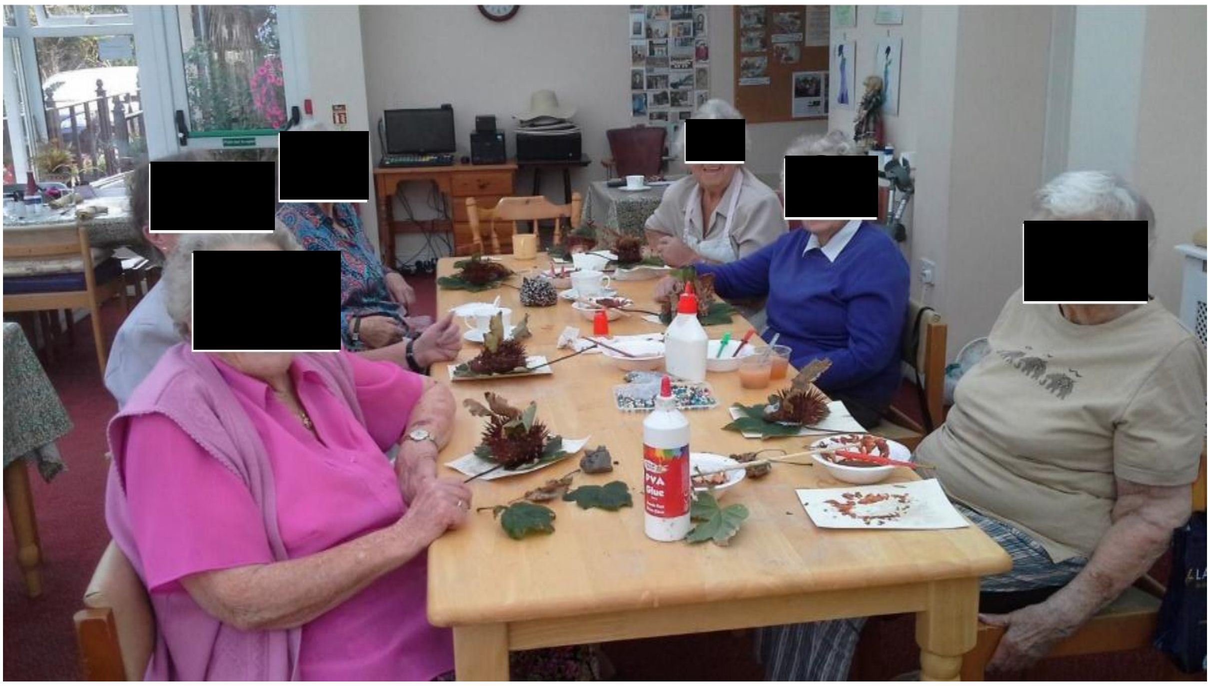
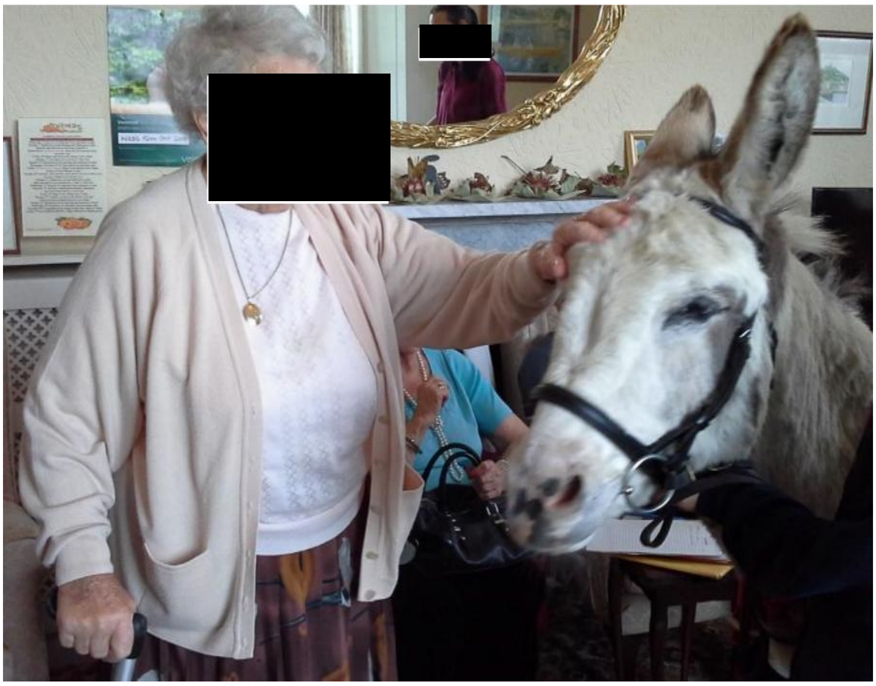


Figure 18: Residents enjoying a craft session making clay hedgehogs

(Photo: Harvie 2014)



[redacted] [redacted]

Figure 19: A resident meeting donkeys from the Donkey Sanctuary

(Photo: Skews 2014)

Figure 20: Craft session

(Photo: Harvie 2014)

Figure 21: Helping at a craft session

(Photo: Skews 2014)

Figure 22: Excursion to the tearoom

(Photo: Harvie 2014)

Over time, I became a regular presence at the care home, and residents and carers would approach me for informal conversations. On several occasions, I was told that residents left their bedrooms to go to the shared living spaces (sitting room, dining room, or snug) when they heard I was at the care home. Residents enjoyed spending time with me. Most of this time was spent talking, during which I would give them my full attention and either let them lead the conversation or guide it myself. Our conversations were relaxed. For some residents, storytelling and reminiscing were powerful, while for others, debating politics or the state of the world was their preferred activity. Reflecting on this, these one-on-one or group conversations may have been the only attention residents received that day, and for some, it was possibly their only interaction before returning to their bedrooms after I left. This engagement aligned with the first GPG theme – communication – and the fourth theme – knowing the person – where I practised active listening (Hargie 2010; Luff et al. 2011; Dickson et al. 2017) and reminisced with residents by asking questions about their past (Stake 2006; Brown-Wilson et al. 2009; Dewing 2009; Froggatt et al. 2009; Engelbrecht et al. 2024).

During the activity sessions, I always had a handheld tablet with me to look up facts, old photographs, poems, or songs. My intention in openly using the handheld tablet was to expose those living and working at the care home to the technology and dispel any fears they may have (Osiceanu 2015; Di Giacomo et al. 2019). The journal club was an excellent place to use the handheld tablet due to the material that was needed for the monthly pages, such as poems about flowers, and words to songs (Figure 13). Residents would actively engage in cutting and sticking into their journals while having conversations with other residents. We would encourage residents to take notice of the time of year or month and identify a blooming flower or a seasonal song. This activity aligned with Five Ways to Wellbeing by connecting with others around you, actively engaging in an activity, noticing the time of year, and learning a new song or poem. In addition, residents would be connecting on many levels: people, community, and society. On the outings, I used the handheld tablet to take photographs of the residents. These photos were streamed on the TV screen for residents and relatives, or printed out and pinned on the notice board (Figure 23). Residents always enjoyed seeing photos of themselves displayed on the notice board. My involvement in these activities aligned with the sixth GPG theme – true engagement – where I authentically engaged with residents to develop rapport (Dickson-Swift et al. 2007).

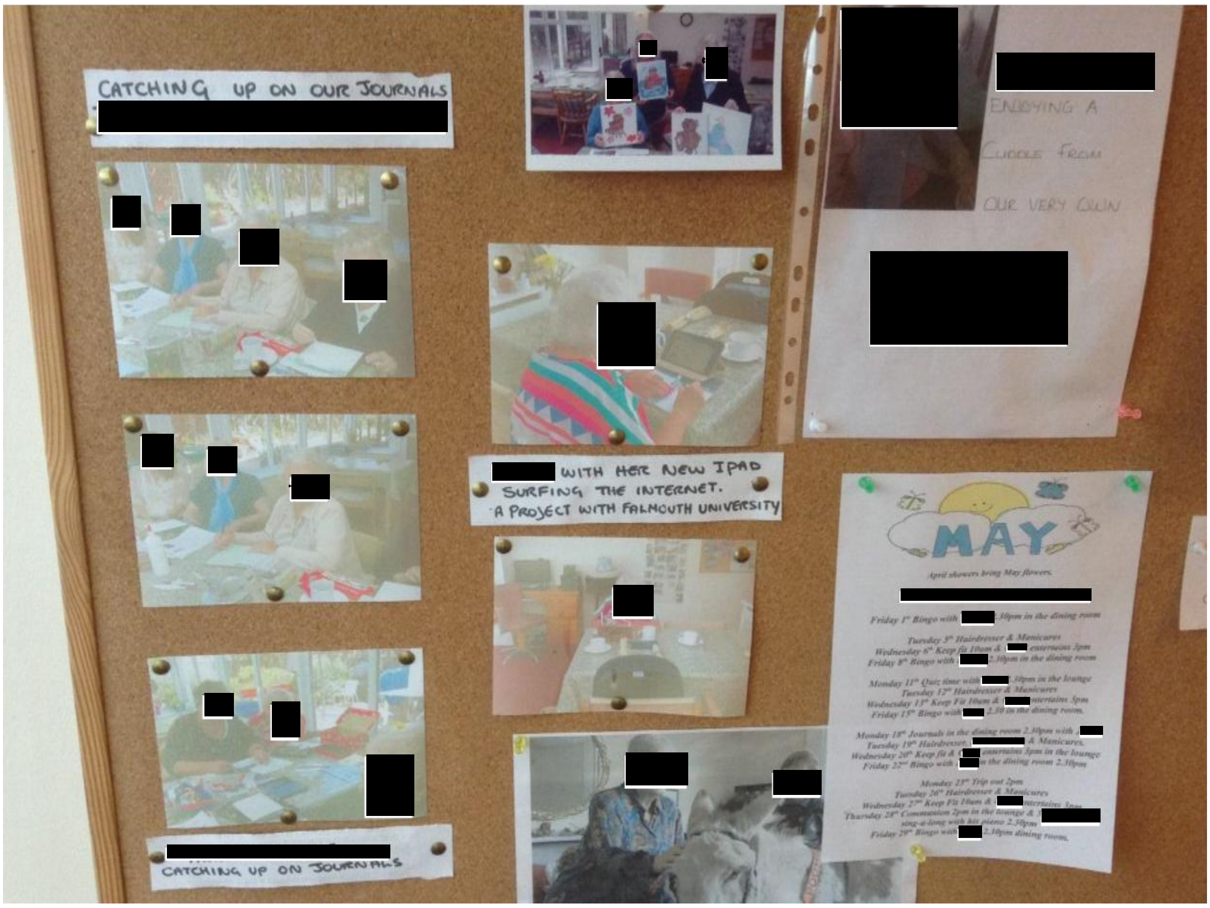


Figure 23: Activity photos pinned on the notice board

(Photo: Harvie 2015)

During this stage, BT installed Wi-Fi at the care home as part of the wider project. Although the installation was successful, the Wi-Fi's capacity was limited due to the building's construction. The dense granite walls prevented the Wi-Fi signals from penetrating, leading to the installation of several boosters around the care home. These boosters extended the signal to only certain areas, such as the communal dining room and sitting room (where many craft and social activities took place), as well as a few bedrooms. As a result, and to my disappointment, most bedrooms lacked Wi-Fi access, meaning the handheld tablets could not be used online in these spaces. The carers' overnight room was another area without Wi-Fi, which was again disappointing as carers had free time during the night. This poor Wi-Fi signal was one of the main challenges during fieldwork, as residents struggled to understand the concept of Wi-Fi and why the tablets worked in some areas but not others. Additionally, the lack of Wi-Fi in bedrooms prevented residents from having private conversations via applications such as Skype. This significantly impacted one of the intervention's objectives, which was to enable residents and staff to use the handheld tablets freely throughout the site, as recommended (Barnard et al. 2013). In response to the unreliable Wi-Fi, I adopted a strict routine for those unable to access Wi-Fi in their bedrooms, such as Zara, where we regularly met in the dining room to work with the tablets, hoping to foster a habit and develop a basic understanding of how the internet functions.

After some time, I decided to conduct a pre-test of the handheld tablets, so Jackie and I used the book club to gauge interest in the devices. At the book club, residents gathered to discuss various books and poems and borrow books. We began planning to introduce the handheld tablets at a monthly book club session, which would give residents access to a wide range of books through various applications. The book club sessions took place in the communal sitting room, so many residents who spent their days in this space would naturally attend. When Jackie and I discussed the idea of accessing books electronically, some residents expressed that they were not excited about the idea and preferred the feel of paper in their hands. I planned to give an introductory lesson on using the handheld tablet and the eBook application. Only two residents were willing to try electronic books: one had full mental capacity (Emma, who could be included in the study) and the other, unfortunately, was in the early stages of dementia (and thus could not be included in the study).

During the session, both devices unfortunately required a software update, and the free eBook application crashed multiple times. This did not bode well for the two residents, and, in hindsight, these frustrations did little to boost their confidence in using the device. Additionally, Jackie had planned to spend some time with both residents, helping them access the eBooks, but this did not happen. The lack of support led both residents to return their handheld tablets shortly after receiving them. For me, the key lesson from the book club trial was that residents needed more assistance than initially expected. It also confirmed that training could not follow a one-size-fits-all approach, as supported by others in the field (Friemel 2016; Neves and Mead 2021; Paulovich et al. 2022). Consequently, it became clear that more time was necessary to understand individuals and teach them according to their abilities and needs (Hitch et al. 2017; Jin et al. 2019), thereby enabling them to use the handheld tablets independently. This personalised training approach aligns with the fifth GP theme – empowerment – where I hoped participants would feel empowered after receiving the appropriate training.

5.3 Working with participants

As the handheld tablets became a familiar sight at the care home, I started talking about the research study and posting photographs of residents with the devices on the notice board (Figure 23). Interested residents slowly approached Jackie, a carer, or the manager, and indicated that they wanted to hear more about the study. At this point, I would confirm with Jackie whether the resident had full mental capacity, and if so, we would sit down and discuss the study. Following this, the official paperwork was completed, and a basic needs assessment was undertaken. I tried to keep the focus away from the handheld tablet and instead focus on the ‘person’ behind the participant. Working with the Five Ways to wellbeing actions (Aked et al. 2008; Thompson and Marks 2008; Aked and Thompson 2011; Michaelson et al. 2012) and the social connectedness dimensions by Waycott et al. (2019) we talked about how their lives had changed as they aged and moved into the care home, their interests, what they missed, and what they wanted from life looking forwards. I introduced the handheld tablet as a tool for connecting to these goals; we referred to the objectives as their ‘gold stars’. These conversations started before the paperwork was complete and continued right up to the end. Together, we agreed on a focus and mapped out a plan togetthere.

This relaxed and fluid way of working aligned with the fourth and fifth GPG themes – knowing the person and authentic engagement – where there was reciprocal engagement between the participant and me (Daly 1992; Dickson-Swift et al. 2007). Alongside the tablet, participants were given the chance to personalise their device by selecting a protective case (Figure 24). This was a very popular exercise where residents showed great delight in being in control and exercising choice. This aligned with the fifth GPG theme – empowerment – where participants were empowered to make their own choices.

Figure 24: Colourful handheld tablet cases

(Photo: Harvie 2014)

All the participants (Zara, Charlie, Emma, Hazel, John, and Penelope) were quite different and had diverse needs. Their individual stories are shared in Chapter Six. Zara had no experience with technology but had a strong desire to connect on many levels with people, her community, and society. She was interested in following her sons' example and finding a partner through online dating applications. She was eager for information and wanted to look up facts and news articles. Another participant, Penelope, had no interest in connecting with people directly; instead, she preferred to engage with her community and society through entertainment and services such as blogs on painting, eBooks, and iPlayer. Conversely, Chris, who was a technology user, wanted to stay in touch with the community he had left behind and look up facts about the war and swimming. Hazel, another participant who did not use technology, hoped to communicate with younger generations via email.

Once the participant and I had a list of their 'gold stars', I considered how the handheld tablet could serve as a tool to help them reach those goals. For example, for those who wanted to communicate with others, we could try email, Facebook, or Skype. For those who wanted to draw or paint but could no longer hold a pencil or brush, we could explore art applications. For those seeking news, we could access newspapers through the Cornwall Library applications. For those interested in specific facts, we could visit suitable websites. For those who wanted to watch TV, we could try BBC iPlayer, ITV, and others. For those seeking more entertainment, we could try crosswords or game applications. For those who wished to choose their own library books, we could access them via the Cornwall Library app or Google Books. The handheld tablet could serve as a tool to reconnect the participant with all aspects of life.

Next, we turned to training, where the consensus among researchers was for one-to-one training sessions for older adults (Friemel 2016; Neves and Mead 2021; Paulovich et al. 2022). Participants' technology skills varied, but none had previously used a handheld tablet. Therefore, some had a good understanding of how similar technology worked (applications such as email and the internet), while others had no previous experience. Three participants (Emma, Hazel and Zara) had no prior experience and required extensive training. The training sessions aimed to teach the participants to be self-sufficient in using the device. This aligned with the fifth GPG theme – empowerment – where participants were empowered to use the device themselves.

For Chris, a computer user, we met every Thursday from 9:30 to 11:30 to talk and work on developing his skills on the handheld tablet. He had Parkinson's, so his ability to function varied depending on his condition on the day. The best training for Chris was experimentation through trial and error. Some days were challenging for him because his hands were not functioning well. For Zara, we met at 15:00 twice a week in the dining room. This time was sandwiched between her afternoon nap and her favourite TV show. Zara had never used any ICTs except a telephone, but she was familiar with the layout of the keyboard from secretarial training in her twenties. For Zara, training was slow, and every action needed an explanation. Initially, we used the notes I compiled on how to access email, but Zara rarely consulted these notes, so we worked together and she created her own set of instructions, which she referred to more frequently. Every session, we had to revisit what we covered in previous sessions, which was an aspect reported by Vercruyssen et al. (2023). Zara lacked confidence, so I visited her more often to check for any problems. Eventually, she started emailing me and asking for assistance.

Penelope was confident in using her desktop computer, making the device easy for her to learn. Initially, we spent an afternoon together, after which she was happy to go off on her own. She would experiment through trial and error, and I was impressed when she demonstrated Google Assistant to me one day. Penelope was a quick learner and soon mastered downloading applications and books from the library website. She even started using the device for online shopping. I visited her regularly to check if she needed any help. John also understood technology well; once the device was set up and we had chosen the applications, he required little assistance. Hazel and Emma did not remain in the study for long, as neither had any experience with computers and therefore needed a lot of help. Both were nervous users. More details about participants are available in Chapter Six.

Regarding internet access, Chris and Penelope had their own broadband installed, and therefore we could meet in the privacy of their bedrooms. Hazel, Emma, and John had access to the care home Wi-Fi in their bedrooms, allowing us to meet there in privacy. However, Zara had no access to Wi-Fi in her room, and so the only option was to meet in the communal dining room (Figure 25). Applications on the handheld tablets were selected based on the participants' needs, and we used the default applications where possible. Half of the participants understood internet safety and security; for the other half who did not, we discussed selecting websites and not disclosing any personal details. Participants were instructed to seek assistance from the manager or carers if any unwelcome messages or alerts appeared on the tablet. I regularly checked that the antivirus software was up to date. On a few occasions, we paid for applications that were downloaded from the Google Play Store. Additionally, we occasionally purchased books through Google Books for Penelope. As part of the study, we had access to Google vouchers.

Zara’s training session in the dining room led to additional residents and carers becoming interested in the study. On many occasions, Zara and Penelope sat side by side at a table in the dining room (Figure 26), working independently on their handheld tablets. The devices became a topic of conversation between them, and Penelope would report to me if Zara had a problem. Sometimes, our sessions in the dining room would lead to on-the-spot conversations with carers about the state of technology and the world. In this instance, the handheld tablet became an interpersonal connector.

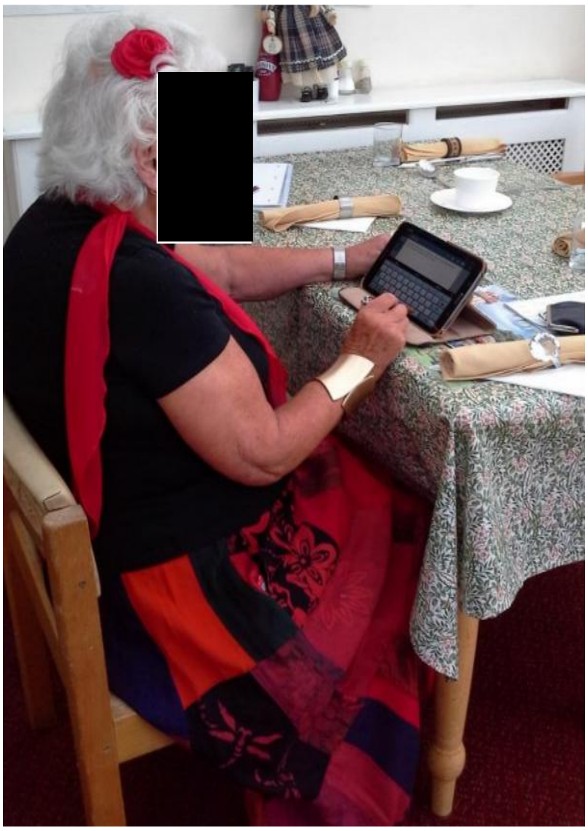

[redacted]

Figure 25: Zara using the handheld tablet in the dining room

(Photo: Harvie 2014)

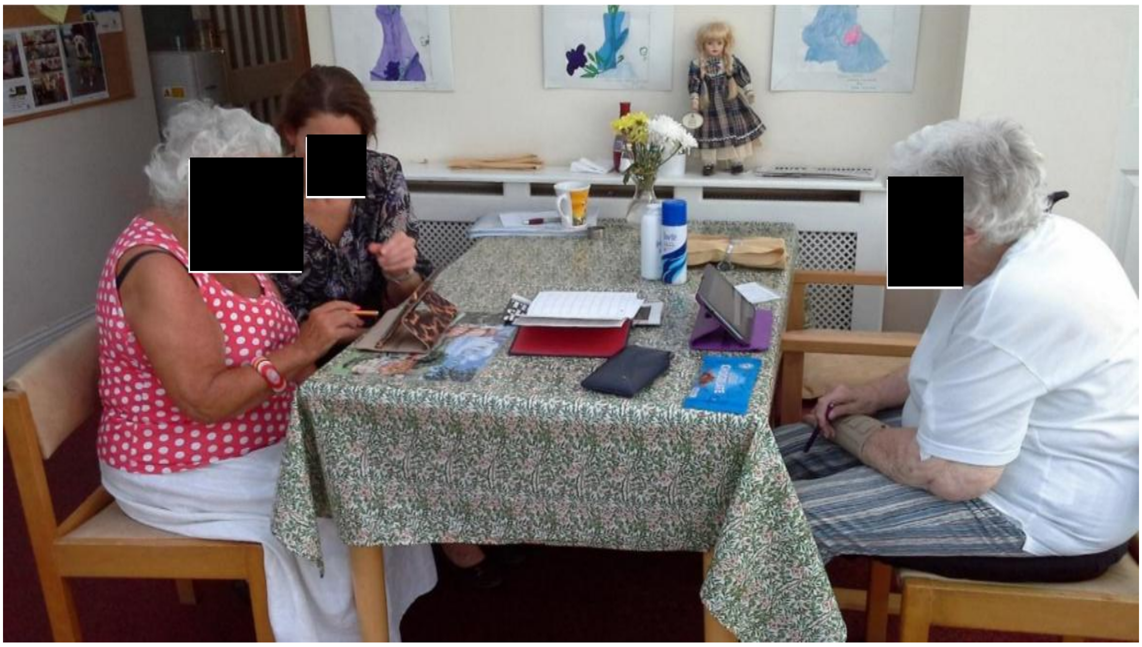

[redacted]
[redacted]
[redacted]

Figure 26: Zara and Penelope working on their handheld tablets in the dining room

(Photo: Harvie 2014)

Carers began to use the spare handheld tablets, occasionally assisting residents with problems they encountered while using the device. Both Penelope and Zara received help from carers and kitchen staff during the study. Some of the older carers, who had limited ICT experience, were intrigued by residents engaging with the technology lessons and watched the participants closely during the training sessions. On one occasion, a new carer stood transfixed as he watched Chris on Skype talking to his family. Jackie, who initially had limited technical knowledge, became adept at using a handheld tablet over the course of the study.

I was aware that the turnover of residents in the care home would be high, as reported by others (Gordon et al. 2014). This was due to residents transferring to different homes, short-respite care, illness, and death. However, the ongoing adverse effect on recruitment and participant retention in the study was unexpected. During the study, six residents officially completed the paperwork and enrolled. Some residents expressed interest, but certain were unable to enrol because of the Mental Capacity Act, and another passed away before completing the paperwork after our initial discussion. Overall, six residents enrolled in the study during the fieldwork, representing 50% of the available residents.

Data collection initially went well, with four out of six residents completing the first round. However, the remaining two dropped out shortly after they began using the handheld tablets. One of these dropouts was Emma, who had been recruited through the book club. The other was Hazel, who had learnt to use the tablet remarkably quickly but reported feeling stressed while using the device (Tarafdar et al. 2007; Ayyagari et al.2011; Neves et al. 2023; Clayton et al. 2024). In line with advice from previous researchers in this field, the first round of interviews was semi-structured (Hiles and Cermak 2008; Silverman 2011; Jones et al. 2013; Neves et al. 2018; Tsai et al. Cotton 2017) and focused on biographical information, ICT ability, and interests (Stake 2006; Davies et al. 2009). Open-ended questions guided the conversations, though many interviews naturally diverged, often led by the residents. Residents enjoyed discussing their lives as reported by others (Stake 2006; Dewing 2009; Froggatt et al. 2009). Finding a shared interest with a resident created a strong connection and an engaging topic to discuss. I discovered two common interests: the first with Chris, which was swimming and military/war topics; and the second with Penelope, which was baking. These aligned with the fourth GPG theme – knowing the person – where I engaged through active listening, various conversational techniques, reminiscing (Stake 2006; Brown-Wilson et al. 2009; Dewing 2009; Froggatt et al. 2009; Engelbrecht et al. 2024), and storytelling (McCance et al. 2011; Buckley 2017). Alongside the initial interview, residents were asked to complete questionnaires, and their responses are available in APPENDIX 8, APPENDIX 9, APPENDIX 10 and APPENDIX 11.

Over time, data collection became more challenging due to a sudden dislike of the technology, a dislike of the structured data collection methods (which led to these methods being reassessed), or the death of the participant. This is covered in greater detail in each participant's story in Chapter Six. The flexible nature of the person-centred study meant that the research environment influenced its direction, resulting in less formal data collection methods, such as the reduction in the number of interviews recorded, questionnaires completed, and photographs captured (McCormack 2003a; Brown-Wilson 2007; Jacobs et al. 2017b; van Dulmen et al. 2017a).

There were several reasons for this, firstly, some participants did not believe they had anything to offer the study and therefore struggled to understand why I wanted to interview them or why they should complete a questionnaire. Participants began to feel that they were being tested, which, according to other researchers, is a common theme in usability scenarios[48] (Franz and Neves 2019). Secondly, participants disliked the idea of being recorded during an interview – they were worried about saying something inappropriate or incorrect. Thirdly, because activities at the care home were inclusive and involved many residents who lacked full mental capacity, I found it challenging to capture photographs. Of the pictures that were taken, many were of group activities, which cannot be shared to protect privacy. In addition, I found that even residents with full mental capacity were reluctant to have their photographs taken, which, according to other researchers, is common with this age group (Desmarias 2016).

For the above reasons, some residents (and participants) gradually began to avoid me, which conflicted with my person-centred ethos. On several occasions, I arrived to deliver a training session or record an interview, only to be told by a carer that the participant was not well enough or was not interested in seeing me that day. This did not reflect well on both my and the participants' wellbeing. Residents' wellbeing was a significant factor in the fieldwork. To ensure the progress of the fieldwork remained positive, I adapted my data collection methods to suit the

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[48] Usability is the degree to which something is able or fit to be used. In technology-related literature, this is when people test the devices.

environment. The intermittent engagement with data collection, combined with challenges in recruitment and building trust, led to the extension of active fieldwork from 12 to 24 months. I adopted an unobtrusive strategy, becoming less reliant on interviews and questionnaires, and focusing more on ethnographic methods such as informal discussions and observations. This aligned with the sixth GP theme – true engagement – where I cast aside any preconceived ideas and worked openly and genuinely (Lawler and Ashman 2012).

Organically, the research followed its own course and ultimately evolved into a qualitative study, gathering rich observational data through ethnographic methods. This flexibility in data collection mirrored what many previous researchers in the care home field had reported (McCormack 2003a; Brown-Wilson 2007; Jacobs et al. 2017b; van Dulmen et al. 2017b). The extension of the fieldwork did not negatively affect the research, as analysis was conducted alongside data collection, enabling ongoing progress (Stake 1995; Guba and Lincoln 1998; Simons 2009; Luck et al. 2006). Over a period of two years (March 2014–April 2016), I collected data through various means: a journal of exceeding 65,000 words (including observations, informal discussions, and reflections), seven recorded interviews, five sets of completed questionnaires, and photographs.

The use of the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) and Harvie's Questionnaire was planned at the start of the fieldwork, as explained in Chapter Four. However, due to Chris's high levels of loneliness and deep desire for connection, I decided to use the De Jong Gierveld Scale and Lubben Social Network Scale to triangulate my observations. The De Jong Gierveld Scale assesses both emotional and social dimensions of loneliness, providing a comprehensive understanding of a person's subjective experience of loneliness (De Jong Gierveld and Tilburg 2006). The Lubben Social Network Scale is an instrument designed to assess social networks and social support (Lubben 1988). These scales were used to better understand which areas of connection were missing and the quality of connections across family, community, or society. This data is presented in subsequent chapters, specifically Chapters Six and Seven. All the questionnaires are available in APPENDIX 4, APPENDIX 5, APPENDIX 6 and APPENDIX 7.

Over the course of the fieldwork, staff changed frequently (Towers et al. 2021), and sometimes I would enter through the back door of the kitchen to be greeted by a group of new carers, none of whom I had seen before. This lack of continuity with carers affected the residents, who preferred familiarity for personal tasks such as bathing. More importantly, from my perspective, this inconsistency led some carers to lose sight of my research objectives, as I only encountered them occasionally due to our differing schedules. When I began working with the care home, the outgoing manager was very supportive of the fieldwork undertaken for this study. She recognised the importance of connecting residents with the outside world, family members, fellow residents, and carers, as well as providing access to extra services. The new manager was less supportive of the research, and I was convinced that this attitude was reflected among the carers. In my opinion, she struggled to see the value of the handheld tablets but was pleased to be given her own tablet to use—and enjoyed exploring all its features. Like the residents, the manager appreciated having the power to choose, such as selecting an orange case to match her handbag. While she always acknowledged my presence and granted me full access to the care home, I believed she did not fully understand the purpose of the research.

There was a clear divide between the ICT skills of the younger and older groups of carers. The younger carers used smartphones to access applications like Facebook and games, and used the internet, whereas some older carers did not have a mobile phone or smartphone. At the start of the fieldwork, I envisioned carers helping residents with their handheld tablets, adding another layer of connection to the puzzle. Although this did happen, there were very few occasions when staff assisted residents. I am aware of two carers (one 19 years old and one around 50 years old), as well as the cook, who assisted two residents with issues they encountered while I was away on holiday. One of these carers showed Zara how to 'clear the cookies'—the action of deleting browsing history—on her handheld tablet. As a result, Zara became confused about how to use the device because the carer's advice contradicted the simple training I had provided. Following this, I concluded that outside help was not always beneficial and, in some cases, it hindered much of the progress that had been made. Incidentally, some months into the fieldwork, the use of mobile phones was banned at the care home because carers were spending too much time on them. The manager believed that carers with smartphones checked their messages too frequently, and the constant interruptions affected the quality of care residents received. This ban did not impact my study, as the use of carers' mobile phones was outside the scope of the project.

5.4 Looking towards the end

As my fieldwork progressed, I found myself in an uncomfortable position of wanting to withdraw from the activities I was engaged in with Jackie. I assisted Jackie with several craft and social activities that did not involve technology. However, although I often used the handheld tablets during those sessions, I realised that my time was being consumed by activities no longer necessary for advancing the fieldwork. I no longer wished to recruit additional participants, but rather to concentrate on those already enrolled. This prompted discussions with my supervisors about various exit strategies from the care home. During this period, Jackie was diagnosed with cancer and reduced her activities at the care home. I followed suit and scaled back my peripheral activities as well.

Over the long duration of the fieldwork, I formed many friendships with those living and working at the care home, but unfortunately, ill health and death played a significant role in the research and beyond, as noted by other researchers (Gordon et al. 2014). Of the six residents who enrolled in the study, three voluntarily left, and the remaining three passed away while enrolled. As the study period drew to a close, I found myself wanting to extricate myself from the care home altogether and bring the study to a close. As I reached the 21-month point, I became exhausted and found it difficult to withdraw due to feelings of guilt, attachment, and overwhelm, as documented by others (Higgins 1998; Griffiths 2003; Dickson-Swift et al. 2007; Goodrum and Keys 2007).

It was during this period that Chris passed away. I struggled to come to terms with Chris's death and took some time away from visiting the care home to reflect on my own mortality and sadness (Dewing 2009). These reflections are discussed in Chapter Six. I then received news that my final participant, Penelope, had also passed away, which again deeply affected me. Besides losing three participants, several residents who had become friends through the social activities also passed away. Throughout my involvement with the care home, I attended several funeral services and sent many condolence cards to their families.

5.5 Post fieldwork

Finally, after completing the fieldwork, Jackie, my friend and guide, lost her battle with cancer. Once again, I was shaken and found it challenging to come to terms with the death of such a good person in the prime of their life. In my journal, I recorded all my thoughts and feelings during and after the fieldwork—feelings surrounding death, helplessness, sadness, and anger. During analysis, these reflections revealed an autoethnographic element where I had unintentionally turned the focus inward. Although this autoethnographic aspect was not planned initially, it was recognised as a significant contribution to knowledge and was retrospectively included. The outcome is my autoethnographic account, which is presented as a case in Chapter Six. Furthermore, this subsequent thematic analysis identified the themes, outlined in Chapter Seven.

5.6 Lessons

During the fieldwork, I learnt many valuable lessons. While this thesis did not aim to produce a list of 'lessons' as an explicit output, it became evident that such a list would benefit many people, such as health and social care researchers or those in the gerontechnology field. Below is a list of lessons that I learned:

1. Data collection: Gathering data in a care home can be difficult and should be approached flexibly. In my experience, I underestimated the reluctance of some participants to participate in interviews and complete questionnaires.
2. Fluctuating health: The physical and mental health of care home residents varies daily, affecting their ability to complete tasks. In my experience, when participants were unwell, they did not use the technology. Participants experienced days when their hands did not function: 'He is having difficulty with his hands; he says they just won't work, so he can't type today' (Quote from my journal – 10 December 2015).
3. Progress varies: The ability to learn differs greatly among participants and is influenced by their previous experiences, with some having never used technology and others owning their own desktop or laptop, as supported by Vaportzis et al. (2018). More time should be allocated to accommodate slower learners.

4. Freedom of choice: Exercising choice is empowering and fosters a sense of control and confidence. With fluctuations in Wi-Fi signal, there should be no geographical limitations to using a handheld tablet, unlike a fixed-position desktop computer. In my experience, participants were pleased to make decisions for themselves, such as selecting the cover for the handheld tablet or choosing eBooks in the library application. This gave participants a sense of control in an environment where many decisions were typically made on their behalf.
5. Understanding needs: Everyone is unique and has different needs. No two people are alike. In my experience, these needs can determine a specific technology choice due to physical limitations such as trembling hands, the location of technology use, and even the teaching style. Below are some examples:
    a. Size of device: The preferred size of the device depends on the participant's needs. In my experience, some participants found the screen too small, while others appreciated its relatively small size due to its lightweight nature. For example, the compact form of the handheld device was advantageous when participants propped it up to read an eBook without needing to turn the pages or hold the book open with their thumb, as one participant explained in the following interview quote: ‘I’ve got pins and needles, numbness, in both my hands and if I hold a book after a very few minutes, I have to put it down. But with that [handheld tablet] I can put my cushion on my lap and then the iPad rests there and I don’t have to hold it at all … no page turning’ (Quote from interview with Penelope – 9 October 2014).
    b. Portability: With a handheld tablet being portable, participants could choose where to operate the device according to their needs, as supported by Vaportzis et al. (2018). For some, this might be a comfortable armchair, and for others, a desk.
    c. Information and training: The amount of information and training provided varies according to participants’ needs. For some, delivering either too much or too little information can cause stress and anxiety, as reported by Tarafdar et al. (2007) and Ayyagari et al. Purvis (2011). For example, software updates and emails from applications such as Google Play should be clearly explained so that participants understand what is expected of them when they receive these notifications. In my experience, these notifications caused stress for participants who did not understand them. Smaller groups or individual interactions were vital for some participants, as supported by Vaportzis et al. (2018).

   d. Screen sensitivity: This feature can be partly adapted to suit each participant. In my experience, all participants occasionally had shaky hands, but only one had a Parkinson's diagnosis, affecting their ability to operate the screen effectively. Long fingernails, common among older women, also hindered touchscreen use. This was a finding from my fieldwork; I had not seen it reported elsewhere in the literature. For these participants, a stylus provides a solution. Screen sensitivity was noted by Jones et al. (2013) and Tsai et al. (2017).

6. Test the applications: All applications should be thoroughly tested before being offered to participants. From my experience, using applications that were not sufficiently tested led to participants losing confidence in both the app and the device. For example, a free books app frequently crashed, making participants less confident in using the devices.
7. Issues: All problems must be resolved as quickly as possible. In my experience, issues that are not addressed promptly are more likely to develop into fear and eventually cause the participant to stop using the device. As a result, I visited the care home several times a week to address any technical issues that arose. Other researchers have emphasised the importance of accessible support (Chan et al. 2016; Tsai et al. 2017).
8. Device setup: Setting up a device can be time-consuming and complicated, so it is best done away from the participant. The need for two types of social support was echoed by Tsai et al. (2017), who noted that one kind supports the initial setup of the device, while another kind supports long-term training. In my experience, any setup or updates done in front of participants caused some level of technostress (Tarafdar et al. 2007; Ayyagari et al.2011), with comments such as 'I can't manage that', leaving participants with negative feelings about the device.
9. Confusion: Moments of confusion are typical for this age group. In my experience, all participants faced instances of confusion, such as forgetting the steps to compose an email or not understanding why the text had vanished from an email. I found myself repeating steps across sessions, which was highlighted in the literature by others (Vaportzis et al. 2018). The 'how-to' notes they wrote themselves proved more effective than the 'how-to' notes I provided.
10. Ease of keyboard use: Women from the generation most commonly represented among care home residents were often trained as secretaries, personal assistants, and administrative assistants at secretarial colleges, where they learned to use a typewriter. It is important to note that the layout of the keyboard has changed little since the typewriters of the 1930s and 1940s. In my experience, all participants felt comfortable

using the keyboard, regardless of their experience with technology. I did not encounter any participants who were apprehensive about using a keyboard. I observed participants using the typewriter functionality, such as double-tapping the space bar. This was an interesting finding from the fieldwork, which I did not find reported in any of the literature.

11. Fear: Many participants shared a fear of damaging the device or making errors, but none were afraid of the device itself. It is noteworthy that this older generation was trained through fear and punishment; for instance, being hit on the knuckles for a mistake. In my view, this fear, or the memories of it, may have hindered some participants' ability to learn to use the technology.
12. Display of information: In my experience, participants found some webpages difficult to navigate and expressed dissatisfaction with the poor presentation of information, as seen with Wikipedia. Occasionally, using these websites resulted in confusion, leaving participants feeling overwhelmed. It is important to ensure that participants, who are new to technology, are directed to appropriate websites. Reflection on the screen was also an issue, as reported by Jones et al. (2013).
13. Test hardware and accessories: Accessories like tablet covers and stands can become unstable during use. I observed the device slipping out of the stand and falling onto the table when typing heavily on the tablet in the upright position. Participants found this frustrating. Therefore, it is essential to conduct thorough testing of the hardware and accessories before introducing them to individuals.
14. Tactility: The tactile quality of objects was important to some participants, such as the feel of book pages against their fingertips and hands. In my experience, some participants preferred not to use the handheld tablet for activities like reading books or drawing because they enjoyed the sensation of the ‘real thing’.
15. Communicating via digital technology: Communicating through email and video calls clearly differs from communicating through handwritten letters or by telephone. I observed participants with no experience in this type of communication struggling with it. For instance, Zara, who had never used email before, found the relentless nature of emails tiresome because she felt compelled to respond to all the messages she received, despite having nothing new to say. Chris, who had no prior experience with video calls, appeared to have less to contribute during this medium. Although Chris enjoyed seeing his family on video, he found it challenging to maintain the conversation but managed to keep it going. It should be noted that I did not observe Chris on a telephone call, so I

cannot determine whether this issue was specific to video calling. Vercruyssen et al. (2023) discuss the behavioural rules or digital literacy involved in communicating via digital technology. I became aware of this area only after completing my fieldwork. In my experience, individuals should be carefully supported in adapting to this new form of communication, and family members should be informed of potential uncertainties and gaps in communication. Researchers should understand digital literacy when engaging in similar work.

16. Video calling etiquette: Video calls should be conducted using a stationary device. From my experience, when family members move the camera around from person to person or pan across the room, participants find it difficult to keep up. I suggest informing family members about this beforehand.
17. Access to counselling: Researchers in this field should be able to access counselling, as recommended by other researchers (Dewing 2009). This is something I should have pursued.
18. Training: More training was required than expected. Neves and Mead (2021) report four times as many one-to-one sessions as originally anticipated. Some participants will not use manuals, not even as a last resort. Repetition of instructions is essential, as reported by Vaportzis et al. (2018).
19. Internet logic: Participants lacking experience in digital technology found it difficult to grasp the concept of the internet. This is reported by Vaportzis et al. (2018).
20. Basic tasks: Basic tasks should not be underestimated. One participant with no experience struggled to connect a charging cable and switch the device on and off. This is reported by Vaportzis et al. (2018).

5.7 Conclusion

This chapter explored the use of a person-centred approach in research. It built on the previous chapter, where the Person-centred Nursing Framework was adapted to develop the Gerontechnological Principle Guidelines (GPG). Here, I guided the reader through the fieldwork, illustrating how the research design evolved—mainly using ethnographic and autoethnographic methods—to suit the environment. The actions taken were grounded in the GPG and relevant literature, including the Five Ways to Wellbeing model and social connectedness. Lastly, I shared lessons that could benefit many people, including health and social care researchers and those in the field of gerontechnology. This chapter offered a nuanced view of the processes involved in implementing a person-centred technological intervention with a group of older individuals living in a care home. It also addressed the second research question, ‘How can a person-centred approach be used to introduce handheld tablets to older individuals in a care home?’ and the objectives, ‘to introduce handheld tablets using a person-centred approach, and to record and report on this usage’.

In the next chapter, I present the case series of the six participants and myself to provide the reader with a clearer understanding of the individuals involved in the study.

CHAPTER SIX: CASE SERIES

This chapter is the second in the series of results and follows Chapter Five, which thoroughly explained the person-centred approach to conducting the fieldwork. Chapter Six builds on this person-centred element and presents seven cases—one for each of the six participants—and my autoethnographic account. Each case tells a rich story illustrating the unique differences among the participants and why a one-size-fits-all model fails for this age group. Additionally, these stories support the notion that personalisation is essential when introducing technological interventions to older people, as discussed in Chapter Two and supported by others (Barnard 2013; Chan et al. 2016; Chen and Schulz 2016; Friemel 2016; Padilla-Góngora et al. 2017; Vaportzis et al. 2017a; Birkland 2019; Jin et al. 2019; House of Lords 2021). My autoethnographic account highlights my experiences and the personal impact of conducting research in the care home while introducing the technological intervention. During the research, I managed both my emotions and those of the participants, which aligns with Dickson-Swift et al. (2008). Managing these emotions is referred to as emotional labour by Hochschild (1983), as detailed in Chapter Four. Many of my experiences and emotions align with findings reported by other researchers who have undertaken fieldwork with older people in care homes (Brown-Wilson 2007; Dickson-Swift et al. 2007).

Over the course of more than two years, I spent approximately 450 hours at the care home, maintaining a journal that documented observations, informal discussions, and quotes, resulting in a journal exceeding 65,000 words. This chapter presents these entries alongside interview material and data from questionnaires. Thematic analysis was employed (Braun and Clarke 2022a, 2022b) to interpret the data, as recommended by other studies examining the use of handheld tablets with older individuals (see Jones et al. 2013; Baecker et al. 2014; Peek et al. 2016; Vaportzis et al. 2017b; Neves et al. 2018; Vaportzis et al. 2018; Neves et al. 2023; van Leewen et al. 2023). The data was actively explored during collection. Once gathered, coding was carried out to create codes and labels, following the guidance of Ryan and Bernard (2000) and Braun and Clarke (2022a, 2022b). All types of data were coded and organised by case using thematic and concept maps, as suggested by several studies (Simons 2009; Martin and Hanington 2012; Babbie 2013; Lofland et al. 2022). Furthermore, memoing was employed, as recommended by Silverman (2011) and Babbie (2013).

To recap, this thesis looks to answer three research questions. Initially, this study aimed to understand the impact of using handheld tablets on the wellbeing of older people living in a care home, and to answer the following question: How does a handheld tablet intervention impact the wellbeing of older people living in a care home? However, over time, the problematisation of the introduction of the handheld tablets became the focus, and the study looked to answer a second question: How can a person-centred approach be used to introduce handheld tablets to older people living in a care home? Finally, during analysis and write-up an autoethnographic element was identified, leading to the development of a third research question: How does undertaking person-centred research in a care home affect the researcher? The objectives include: To assess the impact of using handheld tablets on the wellbeing of the participants, to introduce the handheld tablets using a person-centred approach, and record and report on using this approach, and to report on the impact of the research using a retrospective autoethnographic lens.

Chapter Six presents evidence related to the first research question, which aims to assess the impact of using handheld tablets on the participants' wellbeing. At the end of each case, a synopsis details the use and effects of the handheld tablets. Chapter Seven provides additional evidence to help answer this research question. Furthermore, this chapter presents my own autoethnographic reflections and thus addresses the third research question.

Seven cases are now presented: Chris, Penelope, Zara, John, Hazel, Emma, and myself.

6.1 Chris

6.1.1 History

Chris was born in 1917 into a family of five children. His family struggled financially, especially after his father sustained a work-related injury. As a bright student, Chris left school at 14 to support his family while his father was ill. Through sheer determination and an unyielding entrepreneurial spirit, he established a family business in the form of a mobile shop selling food, which later transformed into a corner shop that sustained his family for many years. As life progressed, Chris developed an interest in swimming, taking lifesaving and swimming exams that ultimately led him to teach swimming to troops in the army. Chris's life was significantly influenced by his time in the military. One of his most vivid memories was serving in the Royal Army Medical Corps during the D-Day landings on 6 June 1944; not only did he treat wounded soldiers, but he also taught them to swim with their packs on in the lead-up to that fateful day. These memories would haunt him for the rest of his life. Chris became an experienced medic, performing procedures such as tracheotomies and minor surgeries. He was eventually demobilised after sustaining a fractured pelvis and injuries to two vertebrae from an explosion. He was awarded four medals during the war (Figure 27).

Chris's connection to swimming continued as he managed a swimming pool and coached swimmers. In 1948, several of his swimmers competed in the Olympics. The Royal Life Saving Society awarded Chris a medal for his contributions to swimming (Figure 28). His leadership and community-oriented characteristics persisted, and Chris was instrumental in founding what is now known throughout the United Kingdom as the Neighbourhood Watch.

[redacted]

Figure 27: Chris wearing all his war medals
(Photo: Harvie 2015)

[redacted]

[redacted]

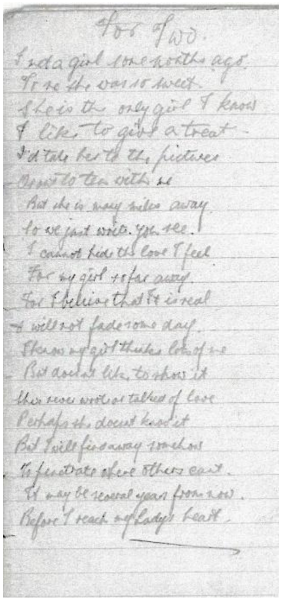
[redacted]

Figure 28: Chris's Royal Life Saving Award
(Photo: Harvie 2015)

He and his wife, Jinny, had three daughters, the eldest of whom died of ovarian cancer several years before I met him. I saw him as a devoted family man; over the years, he supported his siblings in their times of need and took them on holiday with his cherished family. When I met Chris, he had one daughter in Blackpool, UK, and another in Redruth, UK, along with multiple grandchildren and great-grandchildren in both locations. Shortly before moving into the care home, he faced a double blow: he was hospitalised due to stomach complications, and Jinny, after following the ambulance, fell and suffered a stroke. Jinny passed away soon after, and as Chris was unwell, he was moved into the care home without ever having visited his wife's grave. Jinny was the love of his life, and in our conversations, it became clear that his undying love for her remained strong, as demonstrated by the interview quote below.

> C (Chris): I loved her so much that I allowed her to get anything she wanted. That was how we were. And I could never remember a quarrel. (Quote from interview with Chris – 1 August 2015)

Chris kept many sentimental objects and writings, proudly showing me a poem he had written about Jinny in the 1930s, before she became his wife (Figure 29).



“I met a girl some months ago
To me, she was so sweet
She is the only girl I know
I like to give her a treat
I’d take her to the pictures
Or out to tea with me
But she is many miles away
For we just write you see
I cannot hide the love I feel
For my girl is so far away
For I believe that she is real
And will not fade some day
I know my girl thinks lots of me
But doesn’t like to show it
She’s never wrote or talked of love
Perhaps she doesn’t know
But I will find a way somehow
To penetrate where others can’t
It may be several years for now
Before I reach my lady’s heart.”

Figure 29: Poem from Chris’s notebook about Jinny
(Photo: Harvie 2015)

6.1.2 Life at the care home

Chris arrived at the care home after his family decided he could no longer live alone in his house in Reading, UK. He was self-funding a large room at the care home. The room had large windows and a door opening outside, where his daughter had placed some pots with roses from his old garden. From hospital, he was moved directly to the care home in Cornwall, UK, near his daughter in Redruth, UK. His family packed up the house where he and Jinny had lived for 40 years, and Chris never revisited it, never said goodbye to his neighbours, and never visited his wife’s grave. This lack of agency in decisions made for older individuals is reported by many researchers.

Pocock et al. (2021) argue that care home residents often experience a loss of autonomy and control. This has also been noted by others (Bytheway 2005; Levy 2016; Peine 2019). Unfortunately, his wish to visit her grave on the first anniversary of her death in October 2015 was never realised. This sentiment is reflected in the journal quote below:

> He buried his wife next to her father because that's where she wanted to go … he has not been to the grave. This October is the first anniversary, and he wants to go and visit his wife's grave. His family says he isn't strong enough ... Chris is determined that he wants to go. (Quote from my journal – 17 September 2015)

Chris repeatedly mentioned that relocating to Cornwall, UK, was a mistake and that his neighbours wanted him back. I concluded that his disconnection from the community was harming his wellbeing. In the interview quote below, Chris explains why the move was harmful to him.

> R (Researcher): Do you feel it was a good move for you to come down here?
>
> C: No.
>
> R: Why not?
>
> C: Because I was too much of an individual in my own way I deal with things.
>
> (Quote from interview with Chris – 1 August 2015)

His previous community was supportive; some neighbours had tried to persuade him to return home. Chris felt he could have managed with the help of friends and neighbours, but his family would not allow it. In the interview quotes below, he explains that his community wanted him back:

> C: I've got a letter from my neighbour that was there from – saying all the neighbours wanted me back.
>
> R: Could you have managed in your house by yourself with your community and your neighbours round you
>
> C: I believe I could. But the family … my family decided I couldn't do it … they wanted me safe.
>
> (Quotes from interview with Chris – 1 August 2015)

He felt he had traded his independence and quality of life for safety in the care home. In the journal quote below, I discuss a conversation about how his local neighbours were very supportive:

> Today I asked him again if moving to this care home was a good idea, he said no … he wanted to stay at his house. He loved his house and the garden. The people in his Crescent were very good at looking after them and popped in constantly; he said his quality of life was better at home even if he was safer in the care home. (Quote from my journal – 17 September 2015)

Over time, I realised that Chris's family had made many decisions on his behalf, not only in packing up his house and relocating him to Cornwall, UK, but also in replacing his desktop and printer, buying assistive devices online without taking him to view them, taking him on outings he did not want to go on, and so on.

6.1.3 Searching for connection

Chris was not only a family man; I understood that he had once been the centre of his community – a leader and a visionary. While Chris busied himself at the care home, walking to the local park two or three times a day, doing his daily exercises, revising his French, and playing bingo, he felt bored and desperately lonely. He craved companionship and a connection with others. His family lived nearby and visited him at least five out of seven days for about an hour. Chris and his family shared mutual affection. However, the loneliness he experienced was compounded by the loss of Jinny shortly before moving into the care home, other residents avoiding him because they thought he talked too much, a lack of male residents (the majority being female), and being seated at meals with individuals who had disabilities such as dementia. Chris's desperate need to connect with others is supported by the literature presented in Chapter Two. Maslow (1943) theorised that connection was an essential human need, as detailed in Chapter Two. Suragarn et al. (2021) suggest that social connection is needed throughout a person's lifespan and that the lack thereof can negatively impact wellbeing. Other studies support this view (Cahill et al. 2018; Dolan et al. 2008; Dolan et al. 2011).

Despite all the immediate barriers, Chris's desire to connect transcended the walls of the care home; he reached out to the local community and got to know residents in the park and on the streets during his daily walks. He befriended some residents and was invited into their homes for tea. When he passed away, some of these local residents' even knocked on the door of the care home to ask about him. He cherished connecting with his past and conversing with local war veterans, and I know of three occasions when he had the opportunity to do so.

6.1.4 Involvement in the study

I learned about Chris's interest in participating in this study from Penelope, another resident, and his daughter. Following this, I approached him to discuss his needs, and we complied his list of 'gold stars'[49] together. Chris greatly missed his community and the friends he had left behind. He wanted to communicate more with his family, who lived in north England, UK. Additionally, his granddaughter encouraged him to write down his memoirs, which he felt he needed help with. Finally, he was eager to remain mentally and physically active, which links to the Five Ways to Wellbeing actions[50]. Chris was thrilled that I could assist him. His happiness is reflected in the journal quote below:

> As I was leaving, Chris said, 'You have given me more hope than I have had for a long time,' with a big smile.
> (Quote from my journal – 24 August 2015)

Chris was 98 years old when he joined this study in August 2015. He had been a computer user for many years, and before moving into the care home, he used programs such as Outlook, Word, and the internet. However, when I met Chris, his ability to use such devices had declined. He had a landline and internet installed in his bedroom, and he carried a mobile phone with him when he went for a walk. While I aimed to assist Chris in using a handheld tablet, I realised that his Parkinson's disease made using it challenging. Clayton et al. (2024) found that a lack of dexterity necessitated adjustments to the technology setup. So, we decided to use the handheld tablet together for some activities, while Chris would use his laptop for others. When Chris moved into the care home, his family bought him a new laptop with touch-screen capability, a wireless mouse, and a printer. They had disposed of his old devices when his house was cleared. This new setup posed challenges due to his shaking hands and because the wireless functionality of the mouse needed to be activated with a small button. His lack of dexterity prevented him from using this small button. To address this, I introduced a standard USB keyboard and mouse (Figure 30 and Figure 31). Chris could use his laptop with the new setup since they were always plugged in, eliminating the need for pushing small buttons.

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[49] Using the Five Ways actions (Aked et al. 2008; Thompson and Marks 2008; Aked and Thompson 2011; Michaelson et al. 2012) and the social connectedness dimensions (Waycott et al. 2019), the participant and I discussed how their lives had evolved as they aged, transitioned into the care home, explored their interests, reflected on what they missed, and expressed their future aspirations. The handheld tablet was introduced as a tool to connect with their aspirations, we referred to them as their 'gold stars'.

[50] Five Ways to Wellbeing actions: to connect, be active, take notice, to learn, and to give.

Chris was a former technology user who understood how to operate computers. However, the software on his new laptop was a different version, making it hard for him to navigate. This aligns with the literature. Vercruyssen et al. (2023) report that users struggle with interface changes and software updates. Additionally, a new login protocol on Chris's laptop limited his time for entering the PIN. Due to dexterity issues, this new protocol was ineffective, so I asked the family to remove it. When we used the handheld tablet together, Chris could operate the touchscreen if his Parkinson's was under control and the tablet was propped up; he found the navigation intuitive. Due to his fluctuating ability to use his hands, Chris was not always able to use the touchscreen. Tsai et al. (2017) agree with the idea of fluctuating abilities due to Parkinson's. We used Skype to call his family on several occasions, and Chris enjoyed seeing their faces and making eye contact. Balki et al. (2023) and Hietanen et al. (2020) report that video calls partly compensate for the lack of physical presence. This is supported by other studies (Jones et al. 2013; Petersen et al. 2023).

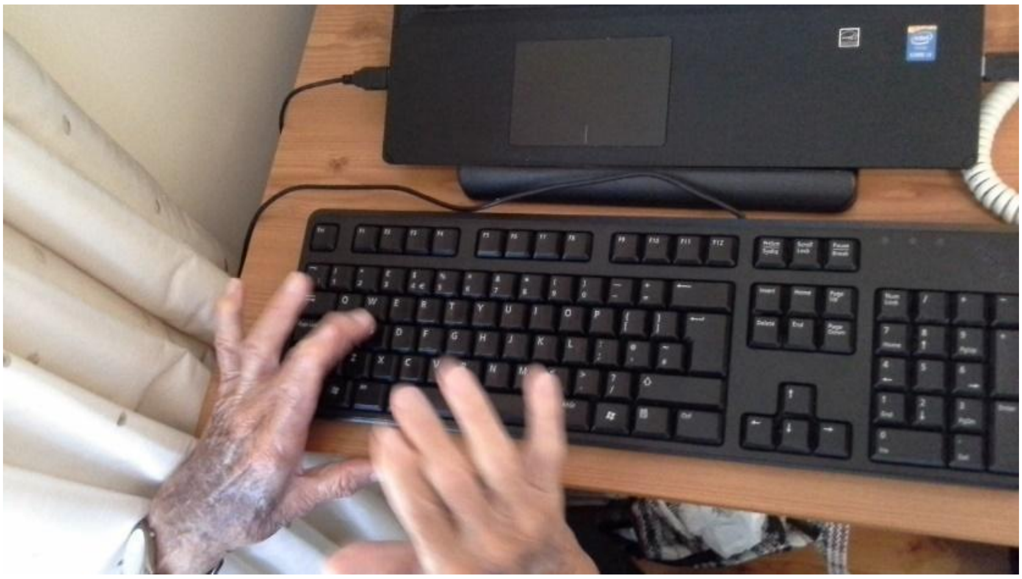

Figure 30: Chris typing on laptop using the external keyboard and mouse

(Photo: Harvie 2015)

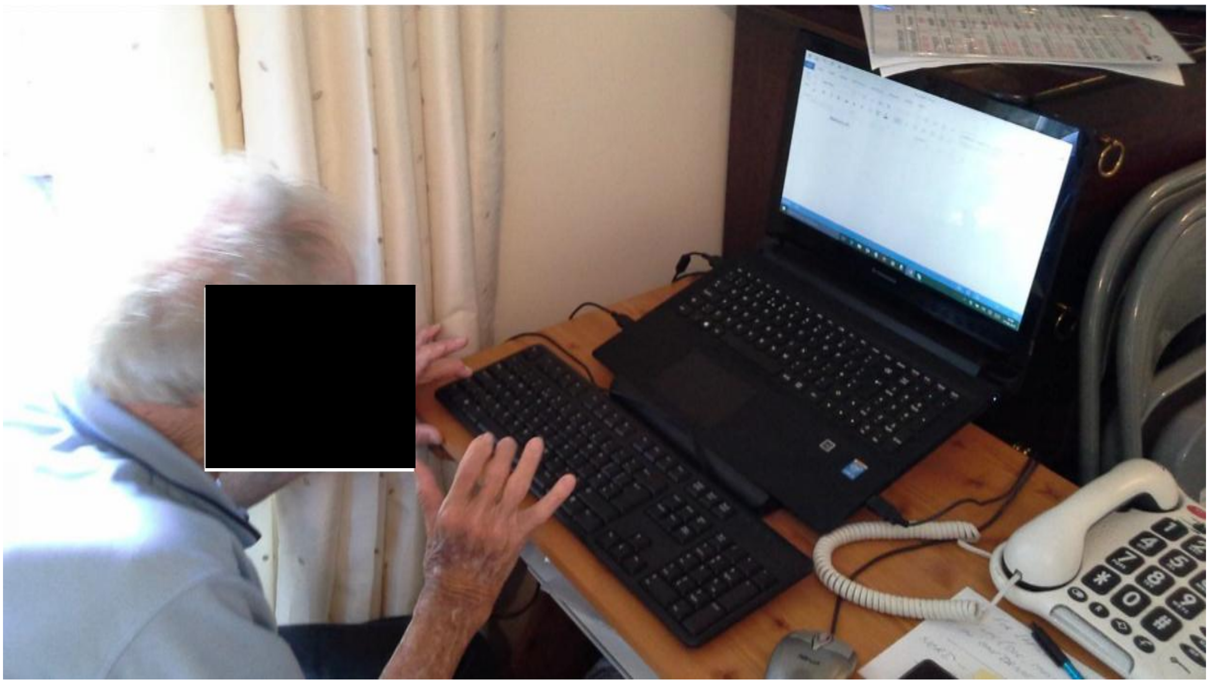

Figure 31: Chris seated at his desk

(Photo: Harvie 2015)

We planned to use email to contact his old community and friends, and Skype to reach his family. For his memoirs, we would use Word, which he was familiar with and had already installed on his laptop. Lastly, we intended to look up facts and figures on the handheld tablet to keep his mind active. Every week, Chris and I sat together for two hours. We talked, I helped him with the computer, and we experimented with the tablet. Over time, it became clear that our sessions focused more on conversation than on technology. Chris and I discovered two shared interests: the military and swimming. He loved to talk, so when I visited, we discussed the war, swimming, his loneliness, the news, and more. On many occasions, Chris told me that our sessions had given him hope in life; his brain was being reawakened, and he now wanted to reach his 100th birthday. This is reflected in the journal quote below:

> Chris said he used to have an active brain but not so much anymore. However, our sessions are waking his brain; he really enjoys them. He said that because of our sessions, he now feels some hope. Initially, he had been telling me that he wanted to make it to his 99th birthday (in Jan 2016); however, now he says that he would like to make it to his 100th birthday. (Quote from my journal – 8 October 2015)

As time progressed, Chris started using his laptop less often due to his declining health. This troubled him; he feared he was disappointing me by not making use of the technology. Reliability and loyalty were core to his character. On reflection, he probably feared I would stop visiting him if he did not use the device. His concerns are clear in the journal quote below:

> His response is always the same ‘I don’t want to let you down’. I opened his laptop and switched it on to find the paragraph from the week before. He hadn’t done any. He then said that he enjoyed the talking more and found it really good. He felt challenged and constantly thought about things from the past. (Quote from my journal – 15 October 2015)

Chris was very appreciative of the time we spent together. Each week, he warmly thanked me for the visit and expressed how much he looked forward to the next. This sentiment is reflected in the journal quote below:

> He is always sad to see me go but grateful to have me visit. He took my hand and said, ‘Thank you for coming to see me, I so enjoy it’. (Quote from my journal – 10 December 2015)

6.1.5 The end

On 25 December 2015, Chris passed away. In the weeks leading up to his death, he was unwell. I often found him asleep after applying strong painkiller patches. On the early morning of 25 December, Chris rang the bell to ask for help to get to the toilet. However, when the carer returned to assist him back to bed, she found him unresponsive on the floor. I visited Chris on 24 December, and after a brief conversation, he asked me to return because he was feeling unwell. The next week, when I arrived at the care home for my usual Thursday session with Chris, a new staff member told me that he had passed away the week before.

6.1.6 Summary

During the four months that Chris participated in this study, he took part in one interview and completed one set of questionnaires. Given the brief duration of his active involvement (August–December 2015), there was only one occasion, at the beginning, to gather structured data. Besides the standard two questionnaires[51], I administered two additional ones[52] for Chris because

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[51] This includes the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) and Harvie’s Questionnaire – as explained in Chapter Four.

[52] These were the De Jong Gierveld Scale and the Lubben Social Network Scale. The data from the two additional questionnaires was not collected to compare across other points of measurement, but was collected solely for triangulation, for me to confirm my observations.

of his pronounced loneliness and strong desire for connection. These two extra questionnaires were utilised for triangulation purposes. His questionnaire responses are included in APPENDIX 8. This data illustrates how Chris felt towards the end of August and early September 2015 and aligns with my observations: Chris was sociable; he enjoyed visits from family and friends but needed more time with people as he was profoundly lonely. For Chris, connecting with friends, family, and the local community was vital. He longed for the enjoyment of being around others and having a close companion, which may have indicated missing Jinny or his previous community. Although he felt part of the care home, his health limited him, and he had little involvement in activities or with other residents.

For Chris, his involvement in the study offered two benefits. The first was our weekly meetings, during which he had my undivided attention for two hours. During this time, we used the handheld tablet and laptop, and we talked. We discussed various subjects, including how he was feeling, and reminisced about different periods of his life. His deep-seated desire to connect with others was apparent in each session. Chris was an active individual who was interested in the world around him. Consequently, he related to each of the Five Ways to Wellbeing actions. Once I made some adaptations to his laptop setup – adding an external mouse and keyboard, and removing the security PIN – he could use it independently, if his Parkinson’s was not severe. Technology provided an additional way for him to communicate with friends and family through Skype and email, though he rarely used email. Additionally, he utilised his laptop to type newsletters. When I was with him, we used the handheld tablet to look up information. In conclusion, technology served as Chris’s prosthesis; he relied on it to stay connected with those from whom he had become disconnected.

6.2 Penelope

6.2.1 History

Penelope was born on 23 July 1926, in Sussex, UK. She married at the age of 17 and was an only child until she turned 18, when her brother arrived at the same time as her son, an event she admitted made her feel a bit embarrassed. Later, Penelope and her husband had a second child, a daughter who was paraplegic and blind, but she passed away at seven months due to a blood disorder. Eventually, they adopted a daughter who resided in Penzance, Cornwall, UK. Penelope is shown in Figure 32.

In the early years of their marriage, Penelope's husband left the Air Force and attended teacher training college, after which the focus of their lives shifted to working with young people and teaching. In the following years, Penelope and her husband worked together, with Penelope serving as a matron and her husband working as a teacher or headmaster in schools for delinquents and remand homes. This lifestyle took them from Buckinghamshire, UK, to Yorkshire, UK, and later to Cornwall, UK.


[redacted]

Figure 32: Penelope from order of service

(Photo: Harvie 2016)

At 26 years old, Penelope enrolled in a two-year City and Guilds course covering all aspects of housekeeping, including dressmaking, first aid, domestic cooking, anatomy, physiology, nutrition, and typing. These skills would support her role as matron. Penelope believed in the importance of education at any age, and throughout her life, she attended evening courses in various fields. Her desire for self-improvement is reflected in the interview quote below:

> P (Penelope): I'm a firm believer in adult education. If you want to do it, you settle down and do it and enjoy it … I didn't start painting until I was 60-odd ... I've done all sorts of evening classes – millinery, collage, Spanish, embroidery, cross stitch. (Quote from interview with Penelope – 9 October 2014)

Penelope's insatiable thirst for knowledge led her to explore two significant passions later in life: painting and computers. An adventurous spirit, she spent her holidays traversing Europe in a campervan, discovering remote corners of Spain and practising her basic Spanish. For seven years, she embraced a new life in Spain, during which she enjoyed views of a picturesque marina. From childhood, her love for the sea brought her and her husband back to Cornwall. Penelope was fortunate to have a supportive family, of whom she was very proud and with whom she shared a close bond. After her husband's passing, her family expressed concern about her becoming isolated and encouraged her to learn computer skills. They stood by her throughout the learning process and beyond. This support from her family is highlighted in the interview quote below:

> P: I'm not a gadget person at all. In fact, when I was in my, I don't know, late 50s I suppose, I gave up a job because they were going over to computers. And I said, oh, no, I can't be doing with that. When computers first came in for business and that, you know. I was secretary at the Greek boat yard and my husband had retired a year before me and so I was, I didn't really want to carry on working … my daughter-in-law kept saying, you ought to get a computer, you ought. Oh, I don't want a computer, what do I want … Anyway, she persuaded me and very kindly taught me all I know. And of course, she's local, so in the morning, she pops in, and if I have any problems, she'll put them right for me.' (Quote from interview with Penelope – 24 April 2014)

6.2.2 Life at the care home

As Penelope grew older, she chose to move to the care home sooner rather than later to avoid burdening her family members. She was delighted when a place became available at the care home in her village, and once she moved in, she enjoyed living there. This happiness was evident during my visit and is reflected in the journal quote below:

> What more can I ask for ... I have someone who brings me breakfast in my room, mid-morning and afternoon coffee, does my washing and so on ... it's terrific. (Quote from my journal – 24 April 2015)

Penelope was self-funding a medium-sized room at the care home, which included a private bathroom. It was situated on the first floor and had windows overlooking the garden. Her armchair was placed in front of the window. She had moved into the care home during a difficult period, having recently lost her son, who passed away in his early sixties after living with advanced dementia in a local specialist care home. He left behind a wife, two sons, three grandchildren, and a beloved dog. On the first day I met Penelope, she was sitting and watching us paint a mural on an outside wall of the care home. She had recently moved in, and over the following months, we built a remarkable friendship by attending various activities there.

Penelope's day was regimented and generally followed the same routine. She interacted with technology throughout the day, as demonstrated in the interview quote below:

> P: I watch the news. While having my breakfast I have the news on … Yes. I have my breakfast and I try to be washed and dressed by 9:15 and I like to watch the Wright Show. Then they do the papers at 10 o'clock. Then I usually feel tired, and I usually sleep. I have my coffee at about 10:30 and I perhaps go on the computer and look at my Facebook and emails and order anything that I think I need. I'm still dealing with benefits, different allowances I've been getting. I'm still dealing with that, so there's usually something like that to do. If it's nice, I ride down to the beach. Lunch is at 12 midday. Then I come up and have my siesta, listen to Classic FM. If there's something on, I join in with anything that's going. Tuesday it's nails … You probably have them done once a fortnight depending on how many people she's got to do. Wednesday, I go out, hopefully. Thursday, there's nothing on. Friday it's Bingo … Wednesday morning my hairdresser comes. She used to live locally, and she's been my hairdresser ever since I've been in the village, 12 years. She doesn't clean for anybody else, but she used to come and clean for me, and she's more like a daughter now after all these years. (Quote from interview with Penelope – 9 October 2014)

As she grew older, she had fewer hobbies, and her days at the care home were spent painting (Figure 33) reading, doing crosswords, watching TV, and listening to music. Art was Penelope's current passion. Most of her artwork focused on the sea, featuring coastal scenery, birds, lighthouses, and other marine elements. She found inspiration by sitting quietly at the beach and sketching, as explained in the interview quote below:

> P: When the weather's good, I do try to go down to the beach [on the scooter]. That's where I get quite a few ideas for painting because I sit … So, I sit and do little sketches and it gives me a few ideas for painting. (Quote from interview with Penelope – 9 October 2014)

[redacted]

Figure 33: Christmas card painted by Penelope
(Photo: Harvie 2015)

She was a member of the local art group. The weekly art sessions allowed her to connect with the community, which included more mentally and physically capable individuals than those at the care home. Initially, Penelope attended every week, armed with her watercolour pencils. However, as time went on, she began visiting halfway through the session without her art materials, just for conversation. Each year, she had at least one painting in the annual art exhibition, which, much to her delight, always sold. Transporting herself to the art class was no problem thanks to her scooter; even as her mobility deteriorated, it gave her a sense of independence, as explained in the interview quote below:

> P: With my scooter, I go right into the hall and right behind my chair. I've just got to pick stuff out of my basket and put it on the table. (Quote from interview with Penelope – 9 October 2014)

In addition to the local art group, Penelope enjoyed the activities (Figure 34) at the care home. She often participated in craft activities such as still-life painting, working with clay, and making Christmas decorations. She also joined outings to garden centres, tea rooms, and to see the Christmas lights. Penelope enjoyed connecting with other residents and engaging in conversations during these activities. Every morning, her daughter-in-law and dog would visit to check on her and see if she needed any assistance. Several times a year, her grandsons and great-grandchildren came to visit. The family kept in touch, and her grandsons would call regularly to assist with issues such as Penelope’s BT telephone line. Penelope felt a strong connection to her family.


[redacted]

Figure 34: Penelope making a clay hedgehog
(Photo: Harvie 2015)

6.2.3 Involvement in the study

At the age of 87, Penelope approached me through Jackie to join this study, and on 15 August 2014, she became my second participant. Together, we identified her ‘gold stars’ as a desire to connect with society by accessing information and services. Connecting with people was not a necessity; Penelope had no issue with her limited social network, as explained in the journal quote below:

> ‘No, I don’t have many friends’, and then followed up with ‘I actually don’t have any friends because I moved around so much’. (Quote from my journal – 20 November 2015)

Penelope was very enthusiastic about participating in this study and learning to use a handheld tablet. She had been using a desktop for years and kept one in her bedroom, along with a printer. Additionally, Penelope had access to the internet, a landline, and a mobile phone. She used information and communication devices daily, accessing emails, banking services, online shopping, and Facebook through Microsoft Office on her computer. However, she found it uncomfortable to sit at her desk using her laptop for extended periods. Before joining this study, she wrote articles for her painting blog, which her daughter-in-law uploaded for her. With her prior experience using such devices, Penelope had a good understanding of internet safety and security. We agreed to meet regularly until she felt confident using the device.

Penelope was interested in choosing her reading material, so we downloaded a variety of applications: Cornwall Library, Pressreader and Google Books. She quickly learned how to use them and was delighted by the variety of books available. If she had specific book requests that the library did not have, we used a voucher on Google Books. She learnt to explore the device; experimentation through play is recommended by Tsai et al. (2017). She tried crosswords, Sudoku, and quizzes, and taught herself how to use Google voice commands. One day, to my surprise, I witnessed my first Google voice-command demonstration from Penelope, as reflected in the interview quote below:

> R (Researcher): Have you ever looked up facts on Google?
>
> P: Facts?
>
> R: Or, if you've got a question or …
>
> P: Oh, yes. This amuses me because you say, 'Okay, Google' and up it comes!
>
> (Quote from interview with Penelope – 24 April 2014)

Initially, she mentioned that the main benefit of the handheld tablet was her capacity to choose books, which gave her a feeling of independence, as described in the interview quote below:

> P: I find books, and borrowing books is the main advantage, I think. Because I've got a computer, but if I didn't have my computer then of course all the other bits would be, you know, email and Facebook and all these other things, umm, videos, painting videos, would be super to get. I would be able to get them on the tablet. (Quote from interview with Penelope – 24 April 2014)

Over time, Penelope increasingly used the handheld tablet instead of her computer because she found her armchair more comfortable than the desk and chair. This is supported by Tsai et al. (2017), who state that the benefits of the handheld tablet are significant for those with arthritis and muscle weakness. Penelope used the handheld tablet to browse the internet, Facebook, eMagazines, iPlayer, eBooks, YouTube, emails and online shopping. Her adventurous spirit shone through; she was eager to try new things independently, as reflected in the interview quote below:

> P: I sit here and browse to find out the different things. (Quote from interview with Penelope – 24 April 2014)

Penelope and I met over a hundred times, sometimes in the communal dining room but mostly in her private bedroom. Later in our relationship, I found out that Penelope had gained a qualification in baking – specifically pastries. While I was not a pastry chef, I enjoyed baking and often delivered homemade cakes, brownies, and muffins to her. She was delighted by this, as shown in the journal quote below:

> Penelope said that she so enjoyed the brownies I left her, she beamed as she said it. (Quote from my journal – 27 November 2015)

Penelope mentioned that my visits always lifted her spirits, as illustrated in the journal quote below:

> 'You have come at the right time,' Penelope said, 'Why is that?' I asked, 'Because I have been feeling a bit low recently and you have made me feel so much better.' We both smiled at each other. (Quote from my journal – 12 November 2015)

As time passed, she became more self-sufficient with the handheld tablet, and I visited less often. However, I was always contactable by mobile or email if any problems arose.

6.2.4 The end

The last time I saw Penelope, she was recovering from an injury to her leg that she had sustained during an outing. She had tripped on the step of the vehicle and cut her leg, which subsequently became infected. This incident undermined her confidence, leading to depression, as she spent long periods in her bedroom discussing her health. Due to the infection, Penelope was admitted to the hospital and passed away on 13 June 2016. At her funeral, I learned even more about her life and was personally thanked by her brother for enriching her time at the care home.

6.2.5 Summary

During the 22 months that Penelope participated in this study, she completed two questionnaires: the first on 9 October 2014, and the second on 24 April 2015. She was the only participant to complete both rounds of formal data collection before transitioning to less formal methods. In both questionnaires, Penelope scored low on how much she looked forward to her day, as her lack of independence and health challenges held her back. Her responses are available in

APPENDIX 9. I found Penelope to be focused, adaptable, and content. She embraced change, maintained a positive mindset, and stayed attuned to the care home environment. Penelope was independent but still relied on her family, whom she loved dearly. She had no friends due to moving frequently. She believed in being a lifelong learner and took many classes throughout her life. This characteristic aligns with the Five Ways to Wellbeing action ‘to learn’.

Technology offered Penelope a new world of opportunities. She was adept at gathering and using information, able to connect with many social services through technology. Although she had a laptop when she joined the study, she started using it less often, preferring the convenience of the handheld tablet. Participating in the study restored her sense of control, as the handheld tablets served as tools for accessing services and later for connecting with others.

6.3 Zara

6.3.1 History

Zara was born in 1927 in Worcester, the only child of a wealthy merchant father and a socialite mother. She was 87 years old when I met her. Her relationship with her parents was complicated: on one hand, she was the apple of her father’s eye; on the other, her mother saw her as competition as she matured into a young woman (Zara was forbidden from calling her mother ‘Mummy’ in public because her mother worried that others would think she was old, given how mature Zara appeared). While at school, Zara spent her free time driving large trucks and delivering supplies for her father’s business due to a shortage of drivers during the war. Zara is shown in Figure 35.

Life changed at 17 when, much to her parents’ dismay, she became pregnant out of wedlock and left home. Zara’s strong morals regarding the unfair social division – rich versus poor – stayed with her throughout her life. She disagreed with her father’s view on accumulating personal wealth and recalls a childhood conversation when she asked why the rich did not give money to the poor. With her firm moral beliefs, she was proud to vote for the Labour Party as soon as she could, as they promised that the poor would receive access to the same services as the rich, such as education. During one of our many conversations, Zara told me that being strong was the most essential thing in life:

> Zara said ‘What do you think the most important thing in life is?’ I answered with ‘To spend time with loved ones’. Zara said ‘To be strong’ (Quote from my journal – 6 March 2015)

When I met Zara, she had many interests and enjoyed scrapbooking, reading, poetry (her favourite poem was a sonnet by Shakespeare), stamp collecting, crosswords, current affairs, watching TV, listening to music, going to church, writing letters, spending time outdoors (sunbathing or having hot chocolate at the beach), socialising, dressing up for the day (with a full face of makeup), and travelling in her imagination. She was proud to tell me that the furthest she had ever travelled was Paris, where a Ghanaian scholar took her for the weekend. Zara loved the arts and books, but in her earlier years, she was physically active, enjoying activities such as tennis.

In 1976, she converted to Catholicism and published two books of religious poetry, which she proudly showed me.

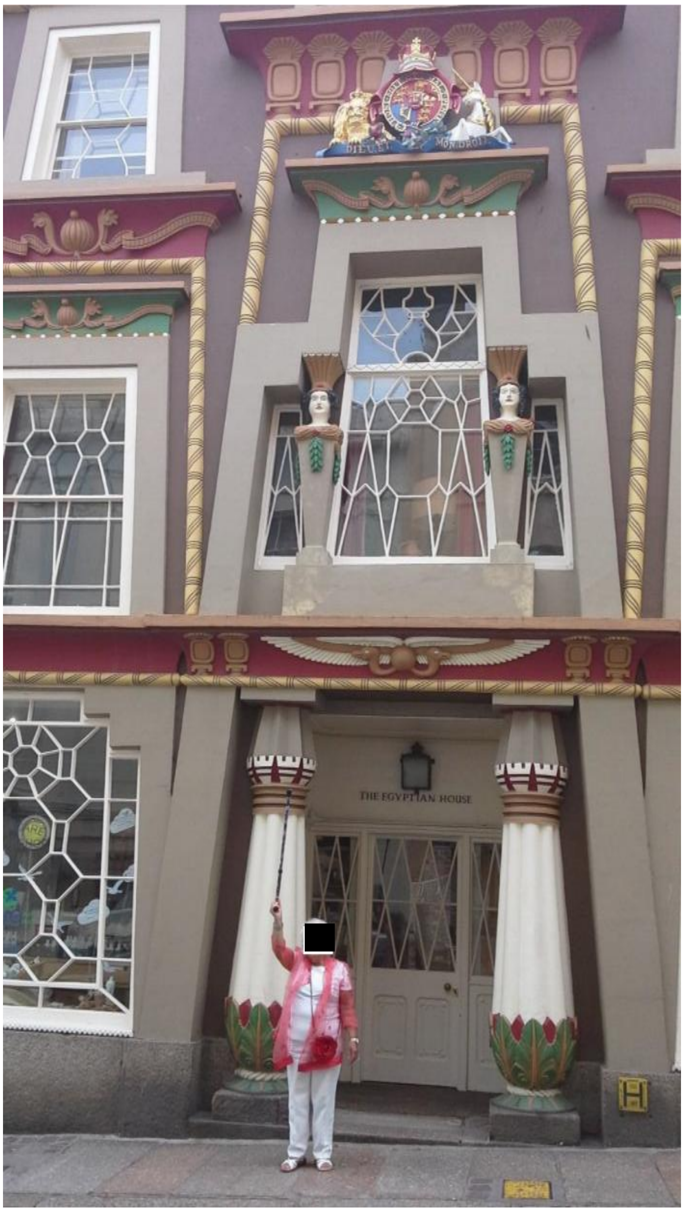


Figure 35: Zara outside Egyptian House in Penzance
(Photo: Skews 2015)

Zara had three children from two marriages, and in 1954, during her second marriage, she moved to St Mawes in Cornwall, UK. Her two sons lived upcountry with her many grandchildren and great-grandchildren, while her daughter, another grandson, and a great-grandchild resided in Redruth, UK.

6.3.2 Moving into the care home

Zara moved to the care home after a prolonged hospital stay following a fall in her flat, during which she contracted pneumonia and experienced hyperthermia. While in the hospital, her family carefully sorted her flat and removed all her belongings. Without her consultation, they discarded several treasured items, such as her typewriter, address book, and old school photographs. When she was well enough to leave the hospital, they selected the care home based on its convenient location near Redruth, where her daughter lived and worked as a teacher. The local council funded her room at the care home, and she worried that the system might change, leaving her at risk of becoming homeless. Zara enjoyed living in the care home but missed high-level communication, which is reflected in the journal quote below:

> Zara and I discussed the house, and I said what a fantastic home it was. Zara noted how lucky she is to be here; she is funded and constantly worries that she may be tossed out because rates go up faster than her funding. She battled to understand how people complain when they live somewhere so lovely. Zara said that the staff are excellent, but she gets little exchange from the residents, which she misses. But she is very happy here and has no plans to leave. (Quote from my journal – 6 March 2015)

Zara built a life beyond the care home and connected with many people in the local community. Three mornings each week, she met friends for hot chocolate at one of two locations, depending on the weather. She was active, as explained in the interview quote below:

> Z (Zara): I go to the beach café every morning throughout the year, weather permitting. And if it rains, my friends collect me from here at 9.55 and we go along the road to the vintage coffee shop, the factory shop. Everything is vintage in there. So, if it's raining, they pick me up, and we go there. Otherwise, it's the beach café. There's no shelter at the beach café so there's no point in going in the rain … Beaching is Mondays, Wednesdays and Fridays. This morning, I didn't go because it was hairdo morning. (Quote from interview with Zara – 21 October 2014)

Zara connected with many local people through the church, as highlighted in the interview quote below:

> Z: Then Thursday morning, I go to coffee at the church hall next door. A friendly little group of people meet. Anybody can go, but we're always the same little group, and it's very lovely, nice, chatty, and friendly. I enjoy that and the coffee is only 50p … Sunday mornings, of course, I go to church, and I have a nun from Redruth who comes and picks me up and takes me to the Catholic church at Redruth. (Quote from interview with Zara – 21 October 2014)

Additionally, once a month, Zara had her hair and nails done at the care home. She occasionally attended activities offered there. Every Friday, Zara participated in bingo, run by Jackie, where she tried her best to win beauty products, such as body cream and soap. She also enjoyed trips to the garden centre and tea rooms, where she looked for cards and small knick-knacks in the shops. However, Zara chose not to participate in craft activities at the care home, as she found the other attendees rather tiresome.

Not long after Zara arrived at the care home, she developed a relationship with an elderly resident named Gerald. Zara and Gerald spent a lot of time together, and after his passing, she developed friendships with only a few people, including a resident, Hazel, and a carer, Conny.

Zara was full of life; I found her eccentric, sociable, fun, fiery, colourful, and passionate – she had a big heart. She was never afraid to stand up for others or ask for what she wanted; she did not worry about offending people. However, I also found Zara to be fiercely stubborn and strong-willed, and she could become angry quickly. I got to know Zara through the care home outings that she attended while I was helping Jackie.

6.3.3 Involvement in the study

One afternoon, Zara asked me for more details about the handheld tablets during a conversation with two visiting friends. Zara's friends were impressed that such a service was offered at the care home, and they quickly provided her with their email addresses. On 14 August 2014, Zara became the first participant in my study. In our initial meeting, we sat down to discuss what the handheld tablet could do and her needs. Zara communicated with her family through the care home's landline and via post through Royal Mail, and she was connected with many local residents. However, her communication with the younger generation was sporadic since they only sent a few letters via Royal Mail. Nonetheless, she stated that she did not require any additional communication channels. When I explained that she could send electronic messages to friends and family, which would save money on Royal Mail stamps, she expressed interest in testing this service. Zara was very interested in saving money!

Zara felt detached from the wider world after moving into the care home. She enjoyed keeping up with current affairs and shared a newspaper with another resident. However, Zara wanted to access more information and wondered if a handheld tablet would be the right tool. Additionally, her son had told her about meeting a partner through online dating, and she was very interested in trying the same! Together, we decided that her 'gold stars' would focus on personal relationships and societal services, such as using email and Skype to contact friends and family, as well as various websites and applications for accessing information like the internet and BBC News. I explained that we could explore online dating once we had mastered using the handheld tablet. We agreed to meet three times a week in the dining room, where she could access Wi-Fi.

Zara had no experience with information and communication technology. She used the care home's landline to speak to her family, as she did not own a mobile phone, and watched TV in her bedroom on a basic set that did not offer on-demand viewing. Additionally, she used a CD player to listen to music. However, one of her strengths was that Zara had attended secretarial school in the 1940s, which made her proficient with the keyboard. While she had mixed feelings about information and communication technology, she recognised certain benefits.

I set up the tablet at home and arrived at our first session with an email account already set up. Zara chose a leopard print case for her tablet, which she loved because it matched her leopard print outfits. During this session, I demonstrated what the tablet could do, and she was captivated by the endless possibilities of the internet, as noted in the quote below from my journal:

> 'Isn't that amazing … I can't believe what you can do with one of these ... this is going to be such fun'. (Quote from my journal – 14 August 2014)

We started with emails, and in the first session, I provided a basic 'how-to' guide for using the application. Zara found my guide confusing, so I helped her rewrite it. Our sessions progressed slowly, and everything had to be repeated weekly, as noted by others (Vercruyssen et al. 2023). She struggled to understand internet safety and security, so we worked on improving her knowledge gradually. Over time, Zara learnt to send and receive emails. However, her ability to remember and follow the sequences fluctuated, and she resisted the step-by-step notes she had written. Her hands trembled more on some days than others. She almost always used the stylus due to her long nails. Alongside physical fluctuations, her confidence levels varied, leading to frustration when using the device. Sometimes, Zara tapped the screen so hard that it fell off the stand. One of her favourite functions of the handheld tablet was the wolf whistle alert; she said it made her feel young! Zara continued to receive encouragement from her grandson (who lived locally) and her son (who lived further away); family support was reported as a motivating factor by others (Clayton et al. 2024). She enjoyed receiving cheeky jokes and photos via email, but disliked it when people peered over her shoulder at her screen because she valued her privacy. This need for privacy when using a handheld tablet is mentioned by others (Balki et al. 2023).

Over time, Zara began using email solely to organise her social life, regaining a sense of control she had lost after moving into the care home. She would email a friend to arrange a pickup, and her grandson would email her to say he would be visiting the care home. The handheld tablet facilitated cross-generational communication, with younger family members emailing her photographs. Additionally, Zara kept in contact with one carer via email on her days off from work. She continued to share her email address with friends and family. Encouraged by her son, she expressed a wish to use applications such as Skype and YouTube, which sometimes surprised me, as noted in the journal quote below:

> Zara suddenly asked, 'Can I get onto YouTube?' … where did this come from? I showed her YouTube a few weeks ago, but someone else will have talked to her about it. Zara said 'What I would really like is to get onto YouTube.' (Quote from my journal – 24 October 2014)

Together, we used the handheld tablet to look up a wide range of subjects on the internet: the valuation of stamps, the words to the poem 'The Ladies' by Rudyard Kipling, an opera titled 'The Pearl Fishers', the translation of a Latin term, information about the Lord Mayors of Birmingham, photos from her school called Alice Otterly, the question 'Is oil needed to produce electricity?', details about Churchill and Helen of Troy, photographs of actors from Coronation Street, the birthdate of Prince Charles, and a question about the Trojan War. As time went on, I explored other applications to try, such as eBooks and eMagazines, but she firmly stated that she was not interested in using the devices to access such services, as explained in the journal quote below:

> While telling Jackie and Penelope about the magazines that they can access on the device, I mentioned it to Zara. She said, 'What on the device' and I said, 'Yes on the tablet', she said 'I'm not interested in reading on that because I like the feel of paper in my hands'. (Quote from my journal – 19 December 2014)

While Zara was using email to contact her family, she found the relentless nature of emails tiresome and confusing. Others have reported struggling with email etiquette and the constant flow of emails (Neves and Mead 2021). She often told me that she would follow up their emails with a handwritten letter sent through Royal Mail, as captured in the journal quote below:

> As a closing remark, Zara said to me 'I prefer letters and I will follow this up with a letter' (Quote from my journal – 16 December 2014)

The handheld tablet became a topic of conversation between Zara, several residents, and carers, particularly during training sessions held in the dining room. Zara struggled to understand the concept of the internet, which was evident one day when she attempted to use the device out of range and became frustrated that it did not work, as shown in the journal quote below:

> Maggie [owner of the care home] had been at the house the day before, when Zara had stormed into the house saying ‘I can’t get my emails, the internet is down’ … she was frustrated and angry. (Quote from my journal – 10 December 2014)

While Zara found the capability of the handheld tablet excellent, stating, ‘This is very interesting; this machine is so clever’, she liked to remind me that her life was full and that there was no need for this new technology, as noted in the journal quote below:

> Zara has said to me, more than once, that her life is full and therefore she doesn’t need any digital devices in her life. She said that she is very busy. (Quote from my journal – 9 January 2015)

Over time, her confidence grew; however, the slightest mistake would set her back. Therefore, I continued to visit several times a week to assist her with any issues that arose.

6.3.4 The end

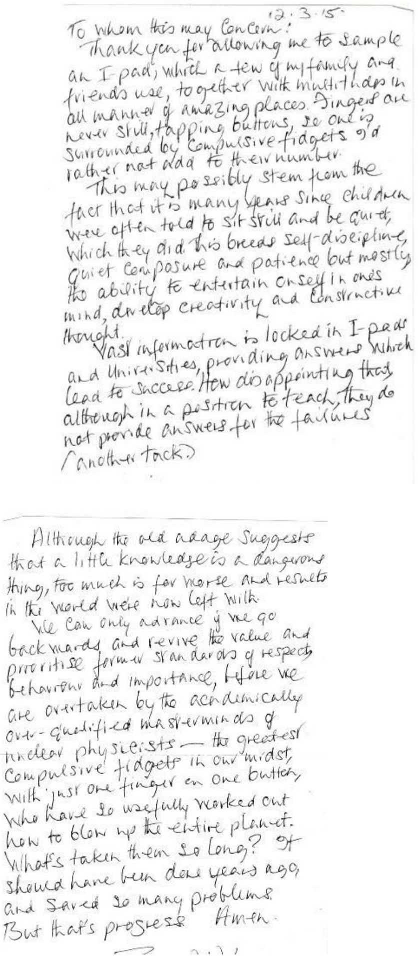
After several weeks abroad, I returned and bumped into Zara as I entered the care home. She told me that she no longer wanted the handheld tablet, as mentioned in the journal quote below:

> I bumped into Zara in the conservatory. She looked fabulous in her red hairy coat; she was heading out to the post box to post three letters. As she entered the conservatory, she saw me and said, ‘Oh no!’ and I said, ‘Don’t worry, I’m not here to see you’ to which she responded, ‘I want to give it [handheld tablet] back to you, I’m not interested in using it ...’ (Quote from my journal – 5 March 2015)

In an effort to change Zara’s mind, I persuaded her to send one final email to everyone in her address book, explaining that she would no longer be available via email. When the final day came to send the email and retrieve the device, Zara did not comply. She refused to send the last email and was reluctant to commit to an interview, as shown in the journal quote below:

> I asked if I could interview her to find out what and why she had changed her mind, she said, ‘For what, I don’t have anything to give ...’ to which I explained that I would find it interesting to hear why the tablet had not worked for her. (Quote from my journal – 8 March 2015)

When the day of the interview arrived, Zara was unwell and cold towards me. She showed no interest in the interview and instead went up to her bedroom to write a letter that is presented in Figure 36.



12.3.15.

To whom this may Concern:

Thank you for allowing me to sample an I-pad, which a few of my family and friends use, together with multi[illegible] in all manner of amazing places. Fingers are never still, tapping buttons, so one is surrounded by compulsive fidgets. I'd rather not add to their number.

This may possibly stem from the fact that it is many years since children were often told to sit still and be quiet, which they did. This breeds self-discipline, quiet composure and patience but mostly the ability to entertain onself in one's mind, develop creativity and constructive thought.

Vast information is locked in I-pads and Universities, providing answers which lead to success. How disappointing that although in a position to teach, they do not provide answers for the failures (another tack)

Although the old adage suggests that a little knowledge is a dangerous thing, too much is far worse and results in the world we're now left with.

We can only advance if we go backwards and revive the value and prioritise former standards of respect, behaviour and importance, before we are overtaken by the academically over-qualified masterminds of nuclear physicists — the greatest compulsive fidgets in our midst, with just one finger on one button, who have so usefully worked out how to blow up the entire planet. What's taken them so long? It should have been done years ago, and saved so many problems.

But that's progress. Amen.

12.3.15

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But that's progress. Amen

Zara

Figure 36: Zara's letter of resignation

Later, I discovered that Zara had became confused when people forwarded an email she had sent to her entire address book (including me). Since I was away, she had not asked anyone for help, which I believe added to her feelings of embarrassment. This was the catalyst for her decision to return the handheld tablet. Furthermore, the cook informed me that Zara had been unwell and in bed for ten days, leaving her overwhelmed by the large number of emails in her inbox.

In May 2015, Zara suffered a stroke and was in the local hospital for some time. I visited her there with magazines and chocolates, and later, when she returned to the care home, I gave her a poetry book by her favourite author, Wilfred Owen, and a plant. Zara continued to improve and regain some basic abilities but remained in a wheelchair. Occasionally, when I visited the care home, Zara and I would talk, and I would help her upstairs to her bedroom. One day, Zara's daughter, who had basic IT skills, suggested that her mother should go back to using the handheld tablet following the stroke, as detailed in the journal abstract below:

> 'My son thinks Mum should have the tablet back, and this would be the time for it.' I said she could gladly have the tablet back if she wanted it, but I didn't think she liked it. Zara suddenly said, 'I'm busy' ... so I took my leave ... (Quote from my journal – 22 August 2015)

The last time I saw Zara, she told me that her son had given her an old-fashioned typewriter, similar to the one her family had thrown away when she moved out of her flat in Falmouth. She was delighted with the new typewriter, but could not lift it or set it up on the table. Zara was hesitant to ask the carers for help with setting up the typewriter because they were overwhelmed, so she asked if I could assist her one day. However, due to the passing of my last participant and the changing circumstances at home, I never saw Zara again.

6.3.5 Summary

Over the seven months Zara took part in the study (August 2014–March 2015), I collected one set of structured data. Zara participated in one interview and completed one set of questionnaires at the beginning of the study. Her responses can be found in APPENDIX 10. Unfortunately, the Zoom recorder malfunctioned during the interview, capturing only the first 15 minutes, resulting in the loss of the remaining 30 minutes. Zara was not fond of completing the questionnaires or participating in interviews, stating that she would not engage in either again. Thus, much of the recorded data was obtained through observations and informal discussions. The data from the questionnaire highlights how Zara felt in August 2014 and corroborates my observations. She enjoyed living at the care home and appreciated visits from family and friends. However, she only liked spending time with specific individuals, excluding most residents from that group. To some extent, she struggled with independence and felt that her health hindered her, leading to a diminished sense of self-worth and infrequent feelings of usefulness. Zara was connected to her friends, family and community, but lacked access to societal services.

From the outset, Zara was open about her negative feelings towards the impact of technology on society. These strong feelings often resulted in anger during our conversations. However, she was willing to try the handheld tablet, mainly due to encouragement from her family. Zara enjoyed gathering information and used the tablet for this purpose. Additionally, she used it to connect with family and friends via email. Yet, she often became frustrated with the device, which was evident in her heavy-handed use of it. Zara appeared to have left the study out of embarrassment and shame after mistakenly sending an email to all her contacts. She was a proud person and never admitted to this. In conclusion, Zara primarily used the device for email, serving as an interpersonal connector. Nonetheless, most of her enjoyment came from the social engagement aspect, where she was an information consumer using the internet.

6.4 John

6.4.1 History

John was 69 when I met him and was undergoing treatment for cancer, including chemotherapy and radiotherapy. Due to this treatment, he had poor memory, so I could never tell if our conversations were fact or fiction. John shared that he had held many careers, including being a solicitor, pub manager, army recruit, salesman, mechanical engineer, construction worker, farmer, and business owner. These positions were across various fields such as cleaning, metal finishing, greyhound dog training, and, his most rewarding of all, coaching individuals with mental disabilities. Although I visited and spoke with him regularly, John always kept his cards close to his chest, and I felt I never truly knew the 'real' person. He loved music and would spend hours listening to artists such as John Lennon, Diana Ross, and Bob Dylan. He told stories of attending concerts in London, where he was sometimes driven in limousines to the events. John had a passion for reading, poetry, and reflection, but found reading difficult during his cancer treatment. He enjoyed keeping up with current affairs and listening to music, but struggled with his short-term memory, as explained in the interview quote below:

> J (John): It's my short-term memory. I can remember things from years ago but my short-term is a problem ... my main thing at the moment is to get well, as well as I can. I don't watch the news much because I probably won't remember it anyway. I just want to concentrate on getting myself fit again. I listen to a lot of music, and I do a lot of thinking, which is terrible for me because I think of all sorts of things, like how to get rid of Mugabe [president of Zimbabwe]. (Quote from interview with John – 14 October 2014)

After spending many years there, John developed a deep love for Africa. Having grown up in South Africa myself, we often discussed African politics, wildlife, the environment, crime, and more. When I asked him about a joyful time in his life, he reminisced about Africa, sitting in his favourite restaurant watching the sunset, as captured in the following interview quote:

> J: Sitting in Blues in Camps Bay [a restaurant in Cape Town, South Africa] watching the sun go down is a happy time. With a nice bottle of wine, South African. (Quote from interview with John – 14 October 2014)

John was a risk-taker, and the thrill of adventure kept him lively. He often recalled the past. Below is a quote from his interview in which he explains that he took calculated risks:

> J: I'm interested in everything, particularly things that are an adrenaline rush. I think people have to do that to prove they're still alive. You can't just go off to the office every day and lock yourself indoors, you've got to do something. You've done it, you're not afraid to go out and risk something. You make a calculated risk,

> that's always the thing. If you're afraid, you'll die. But a calculated risk, I used to do free climbing and there was loads of times I thought, I'm not going to do that. (Quote from interview with John – 14 October 2014)

John enjoyed the company of others but preferred younger people because, as he said, they had more 'fire' in them. When I met him, his social circle was limited since he could be aggressive, which made many avoid him. Here is a quote from my journal explaining my thoughts on this:

> John's case is an unfortunate one because he has lost contact with most of his family due to being brash, rude, drunk, and unpleasant. I do not agree with some of the stuff he says, but I listen and talk to him. I don't think he has many visitors. He loves life, and although he mistreats some people, I believe he is a good man. (Quote from my journal – 21 December 2014)

His poor behaviour meant that he connected with few people at this late stage of his illness. I knew of two people who regularly visited John. The first was his ex-wife, with whom he had once managed a pub, and the second was a friend who worked as a chef. John had four children from two marriages: one in Canada and three in the UK. My understanding was that only one of his daughters was in contact with him. Despite being on his deathbed, John felt he had lived a good life, which he explains below:

> 'People say to me, you're dying, yes, I'm dying, but hell, I've put a load of lives into one. It's 70 years; it seems a lot longer than that. I've been so busy. And then I've had four wives' (Quote from interview with John – 14 October 2014)

6.4.2 Life at the care home

John moved into a bungalow at the care home after having a seizure at his house. He mentioned that he had known about his cancer for some time but had decided not to undergo treatment. The bungalow was situated within the grounds of the care home but was separate from the main building. It provided support for daily living, including access to caregivers and prepared meals. John was independent and used these services as infrequently as possible. Due to his distrust of others and dislike of authority, he hated living at the care home. He also had a strong aversion to medical professionals. On one occasion, he told me that he had stopped taking his steroids without informing his consultant and had dismissed his GP. His relationship with the care home staff was strained; he treated some staff, including management and caregivers, poorly, while being indifferent to others, such as the cleaners. He often expressed disdain for the care home and frequently claimed that he was planning to move out, as shown in the journal quote below:

> He may move on from the care home quite soon because he says he doesn't want to spend his last days in a "shit hole" in his own words. (Quote from my journal – 6 October 2014)

Furthermore, he remarked that the staff never supported him during his period of need, as shown in the interview quote below:

> J: … I couldn't move. I was crawling around the floor in here, and nobody came to see me. The caring profession doesn't care; they don't even know what's wrong with you, then they wonder why I get annoyed. Because I do. But they haven't seen me angry yet. (Quote from interview with John – 14 October 2014)

Due to his poor health and boredom, John spent most of the day either sleeping or sitting in an armchair in the living room, conservatory, or bedroom. During this time, he listened to music, browsed the internet, and watched films on his laptop:

> J: At the moment, I'm getting a lot of sleep. I'm tired, but I watch movies on YouTube and listen to music. YouTube is great, stupidest load of rubbish sometimes. (Quote from interview with John – 14 October 2014)

6.4.3 Involvement in the study

John became interested in the study when I visited the bungalow to examine some sensors as part of the eSDRCH project. In our first meeting, we discussed his needs and created a list of 'gold stars' for him. We recognised that his primary requirement was societal engagement, as he wanted to connect with the world outside the care home and access more entertainment and information. John felt bored in the care home, so we planned to use the handheld tablet to access these services and boost his mental stimulation. When I met him, John was already a computer user, owning a laptop with a touchscreen and Microsoft Office software. Additionally, he had a smartphone, which he used for calls. As a result, he was familiar with internet safety and security. Although he was probably a proficient user of information and communication devices before his illness, by the time I met him, his ability to use such devices had decreased and fluctuated depending on his health. From an ergonomic perspective, he had no issues with the hardware, and the bungalow offered good Wi-Fi access for residents.

Due to John's fluctuating capacity, we did not establish a formal training programme and agreed to meet as required. I gave John my mobile phone number and email address, and we decided he would contact me when necessary. Additionally, I agreed to check in periodically to see how he was progressing. Once I set up the handheld tablet, we started with TED Talks, BBC iPlayer, and YouTube applications. In our initial training session, I demonstrated how to operate the handheld tablet, which John understood easily as a smartphone user.

From the outset, his health significantly impacted his participation in the study. Because he was unwell, I found it challenging to gather the initial data through interviews and questionnaires, and plans changed daily, as reported by others (Gordon et al. 2014). When we did meet, John enjoyed my company, and we established a routine during my visits, as described in the journal quote below:

> We did the usual, I put on the kettle, he made me a cup of tea, and both went to sit in the bungalow conservatory. (Quote from my journal – 5 December 2014)

Over time, as his condition deteriorated, I frequently assisted John with various tasks on his laptop, such as accessing emails, adjusting the font size, browsing websites, and installing screensavers (images of Africa), among other tasks. He occasionally used the handheld tablet but found himself returning to his laptop due to its larger screen. A second round of data collection (interviews and questionnaires) was scheduled but postponed because of his worsening health. Nonetheless, he continued to experiment with the tablet, and on 21 December 2014, when he was admitted to hospital, he contacted me via text message to thank me for having the handheld tablet with him:

> 'Tammy. In hospital but got tablet with me. Hooray!'

6.4.4 The end

Towards the end, John gradually deteriorated; he grew thinner and smaller, and his skin began to discolour. Once, he overdosed on morphine and stayed in his dressing gown for days on end. On 11 February 2014, I made an impromptu visit to the bungalow and was told by another resident that John had been moved to hospice. I messaged him and received a reply from his daughter, saying he was weak, that he would not be leaving hospice, and that I was welcome to visit. On the eve of my departure for a holiday to South Africa, I sent a message to his daughter, thanking John for his friendship and good conversation, and asked that it be read to him.

> ‘I will raise a glass to him in South Africa while I watch the fish eagles fishing in the dam on my parents’ farm. It has been a pleasure getting to know him, I have enjoyed our lively conversations about African politics over tea.’

On 16 February 2014, I received a text message from his daughter saying that John had passed away.

6.4.5 Summary

During the five months that John participated in the study (October 2014–February 2015), he participated in one interview and completed a set of questionnaires. His responses are available in APPENDIX 11. A second round of data collection was not possible due to his declining health; therefore, most of the data was gathered during informal discussions and observations. Due to his poor short-term memory and my difficulty in distinguishing between fact and fiction in his stories, correlating the data from the questionnaires is impossible. Specific correlations between my observations and the questionnaires were accurate, such as his lack of involvement in the care home, his dislike of people, and his dislike of his day. However, areas in his questionnaire that do not align with my observations include his expressions of looking forward to his days and feeling close to people. Additionally, there were conflicting responses in the questionnaires; for example, he stated that he never felt close to people in one questionnaire, while in another, he said he felt close to people. Therefore, I can only conclude that, due to his failing memory, the data reflect a specific time and place, and no further assumptions can be made.

Technology was John’s lifeline; he spent most of his days on his laptop, accessing YouTube, movies, and music. He would have struggled without it. The introduction of the handheld tablet did not significantly impact his daily life, as he already had a laptop. However, the handheld tablet gave him the ability to access those services when he felt weaker and was in bed in the hospital. In conclusion, technology served as a prosthetic for John, connecting him to the outside world. The handheld tablet only became useful during the later stages of his illness. Over time, it became clear that his engagement in the study was more about talking with me than the technology itself.

6.5 Hazel

6.5.1 History

Hazel and her husband retired to the north coast of Cornwall, where they lived happily for many years. After her husband's sudden death, she moved to a care home to be near her niece, Susan. Hazel shared a close bond with Susan; she visited every Thursday, and, in her own words, Susan was the daughter Hazel had always wanted. Tragically, Susan was struck by a car while posting Christmas cards and passed away in the hospital in 2012. Hazel struggled to come to terms with this loss. Susan’s husband, who was only eight years younger than Hazel and the executor of her estate, suddenly sold his house and relocated to Bristol to be closer to one of his children, while the other two lived abroad. His departure distressed Hazel.

6.5.2 Life at the care home

Hazel was in a comfortable financial position and was able to fund a double room at the care home. It was the best room, offering plenty of space, situated in the corner of the old house with high ceilings and large windows that overlooked the sea and garden. Next to the window was a small table and chairs where visitors could sit. Hazel always kept her door open and was aware of any activity in the vicinity. She tended to keep to herself, spending about six hours a day watching TV in her bedroom and only venturing downstairs for meals, occasional outings, or conversations with Zara. During my time at the care home, I never saw Hazel receive visitors. To my knowledge, she only socialised with Zara. When I met her, she had been living in the care home for five years.

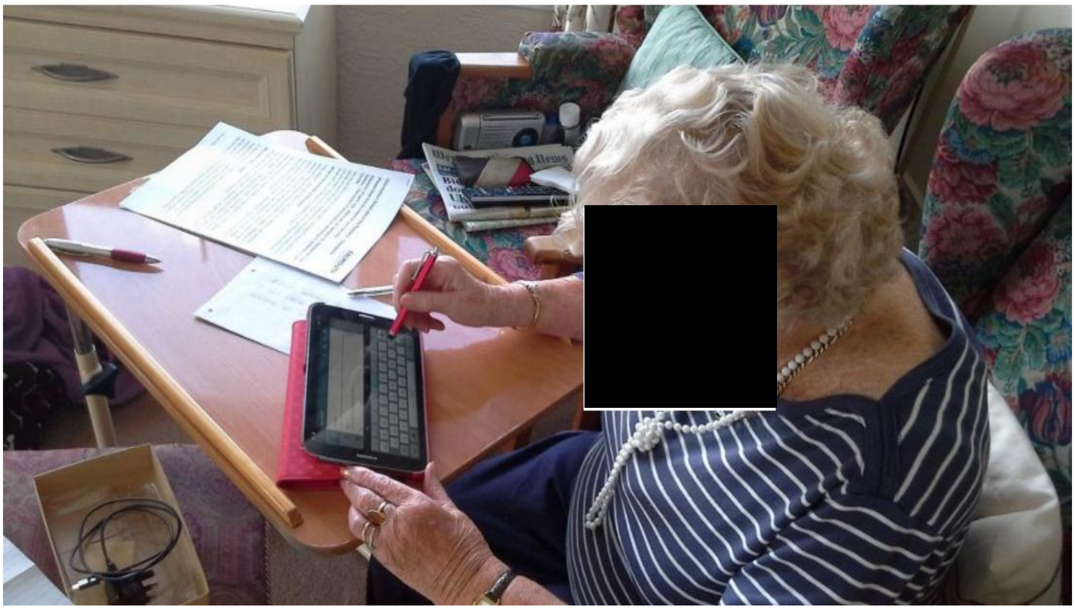
6.5.3 Involvement in the study

Hazel approached Jackie to ask for more information about the study. She felt irritated that others who had arrived at the care home more recently were already involved in the study, while she was not. Below is a quote from my journal explaining the situation:

> Hazel approached me with Jackie, asking if she could have a go on the tablet. She told Jackie that she had been at the care home longer than Zara and Penelope … and why she didn’t have a tablet. (Quote from my journal – 15 August 2014)

On 20 August 2014, Hazel and I met for the first time to discuss the study. I arrived to find Hazel nervous, mentioning that she had not slept for nights due to the prospect of using the handheld tablet. Others report stress explicitly caused by technology (Tarafdar et al. 2007; Ayyagari et al. 2011; Neves et al. 2023; Clayton et al. 2024). I attempted to calm her down, and we discussed the handheld tablets and what she could access with them. Figure 37 shows Hazel successfully using the handheld tablet.

We concluded that her ‘gold stars’ were focussed on connecting with people, particularly Susan’s three children. She felt no need to engage with the community because of a lack of community ties. Additionally, she didn’t need to connect with societal services as she watched six hours of TV daily. I explained that I would teach her how to use the device and tried to reassure her about using the technology. In the meantime, Hazel agreed to gather some family email addresses. Hazel had never learnt to use a computer, as her husband had managed all the household administration. However, she did have a basic mobile phone, which she occasionally used to call family. Despite her limited use of technology, she used the keyboard well, remembered all the steps, and was pleased to receive an email response from her great-nephew. Due to Hazel’s high stress levels when using the device, I did not explain internet safety and security at this early stage.



[redacted]

Figure 37: Hazel using the handheld tablet

(Photo: Harvie 2014)

6.5.4 The end

However, upon my arrival for our second meeting, Hazel was once again in a distressed state, as noted in my journal quote below:

> Hazel is not interested in using the tablet. She says she has 'nervous depression' and has been up all night wondering how she was going to tell me that she didn't want to be involved [in the study]. Her reasoning – she says that she has so few people to contact on the device. (Quote from my journal – 22 August 2014)

Although Hazel had adapted to using the handheld tablet, she felt she lacked sufficient contacts to engage with and wanted nothing to do with it. On 1 September 2014, she returned the tablet to me just ten days after receiving it.

6.5.5 Summary

Hazel participated in the study for ten days but did not take part in a formal interview or complete the questionnaires because she withdrew shortly after joining. As a result, only limited data was gathered from observations and informal conversations with her. The technology is thought to have caused Hazel high levels of technostress, as noted by others (Tarafdar et al. 2007; Ayyagari et al 2011; Neves et al. 2023; Clayton et al. 2024). Neves and Mead (2021) propose that recognising a limited social network, which results in a restricted circle of contacts, can lead to negative feelings. In summary, during Hazel's brief participation, the device served as an interpersonal connector.

6.6 Emma

6.6.1 History

Emma was born in Camborne, UK, and was proud to call herself Cornish. She was one of three children; her younger brother was still alive. Emma kept up with current affairs and shared a daily newspaper with another resident. She had been a devout Catholic her entire life and dedicated herself to the church after her divorce as a young woman. She never remarried, while her ex-husband went on to marry two, if not three, subsequent wives. Emma was skilled with her hands and excelled at playing the church organ and embroidery. She had little family and few visitors but did not seem lonely. She had a younger relative who grew up in South Africa, which meant I was obliged to speak to him over the phone occasionally.

Figure 38: Emma with her artwork from the still-life painting workshop

(Photo: Harvie 2015)

6.6.2 Life at the care home

Emma was in her late eighties when I met her and had been living at the care home for some time. She was actively involved in life at the care home and often attended social activities such as bingo, the book club, still-life painting (Figure 38), and the journal club. I first met her in August 2014 during a still-life painting session, where I learned that her hands did not always cooperate well. Although Emma’s body was frail, her mind remained sharp, and she could engage in many conversational topics as long as she was close enough to hear. In one journal club session, she surprised me, as detailed in the journal quote below:

> I stuck the letters onto the front [of the journal] spelling JOURAL, and the eagle-eyed Emma said, ‘What does that say?’ I looked at it ... and saw that I had missed out the ‘N’ in journal. (Quote from my journal – 9 February 2015)

6.6.3 Involvement in the study

Emma stumbled upon this study by chance after attending the trial book club session led by Jackie and me on 25 August 2015. She expressed interest in accessing an eBook library and was eager to test the handheld tablet. During the session, I gave her a basic demonstration on how to access eBooks. Additionally, I created step-by-step notes for her and assured her that I would provide further training assistance. As part of this process, Emma completed the necessary paperwork for the study. At this early stage, I did not cover internet safety and security.

6.6.4 The end

A few days after giving Emma the tablet, I heard from Zara that Emma was no longer interested in continuing to use the device and had decided to withdraw from the study. When I visited her, I found the handheld tablet packed up and ready for collection, leaving no room for persuasion. Emma left the study on 1 September 2015, seven days after receiving the tablet at the book club session.

6.6.5 Summary

Emma participated in the study for one week but did not take part in a formal interview or complete the questionnaires. As a result, the limited data shown above is based on observations and informal conversations during arts and crafts sessions. In hindsight, Emma needed more support in learning to use the handheld tablet, as mentioned in Chapter Five.

6.7 Me

6.7.1 History

Looking back at my field notes, I feel a deep sadness: sadness for those no longer with us, and sadness for those living in care homes, surrounded by people who are not their community. Although I am British by descent, I was raised in South Africa, and I find that, despite sharing many similarities with British people, I still long for many aspects of my South African life. I feel disconnected from my people and the land I love. Growing up in South Africa, I observed African communities looking up to their elders, viewing them as wise because of their life experiences. In Britain, older people are not respected in the same manner. Ageism and inequality are widespread, as others have noted (Bytheway 2005; Levy and MacDonald 2016; Peine 2019). In the UK, older individuals are often moved into care homes, often forgotten by their families and communities, and become passive recipients of care.

I disagree with this outlook; older individuals have much to teach us. My resistance to this narrative drove my PhD and fuelled my thoughts of activism and advocacy to challenge age-based discrimination (Mitchell 2021). I wanted to give my participants a voice and a chance to be heard. I did not want them to be just another elderly person in a care home. A care home provides safety, but a safe environment is not always a happy one. These feelings of helplessness led me to adopt a person-centred perspective. The following quote is from my journal and explains how I felt during the fieldwork:

> This always plays on my mind; I strongly believe in listening to older people's wishes when they reach old age. Chris may be 98 years old, but still has a perfect mind. Older people's feelings are often pushed aside, and the family does what they want and what they feel is right … The decision is usually based on what is right for the family member (e.g. daughter) rather than what is right for the older person. People get worried about an older person's safety; they want the older person to be safe, but this can sometimes be at the expense of the older person's feelings and wishes. People should listen more. I feel helpless when I see it happening to wonderful people like Chris. I feel sad. (Quote from my journal – 17 September 2015)

6.7.2 Involvement in the study

Sadly, I witnessed participants' wishes being overlooked or ignored by family members and care home staff on numerous occasions. They had little agency over their own lives. I struggled when a resident's desires were not taken into account. I felt powerless and guilty standing by and watching, as reported by others (Lofland and Lofland 1995). I built close relationships with a few residents; the bond was stronger when we shared common interests. Chris was one of these residents; he fought in the war and taught thousands of people to swim. Growing up, four older people greatly influenced my life – my maternal grandmother, maternal grandfather, step-grandfather, and a family friend (who was like an adopted grandfather). All of them were involved in the war efforts, and as a child, I loved listening to their stories of bravery, family histories, and worlds I enjoyed imagining! I still long for those days when the older generation was alive – I wish I had spent more time with them, listened to their stories more attentively, and asked more questions. This study allowed me to connect with that generation, which I craved. Looking back, I wonder if my relationship with Chris had elements of a grandparent–grandchild bond. I met with Chris once a week for two hours. Honestly, as time went on, we did less and less on the handheld tablet and more and more talking. He loved to converse, and after our sessions, he would often take my hand and thank me repeatedly:

> 'You have given me more hope than I have had in a long time', said Chris as I left at the end of our session. (Quote from my journal – 24 August 2015)

Upon reflection, I believe my regular visits may have developed into an emotional attachment, making the sadness of working with residents and losing them more difficult to bear, as noted by other researchers (Dickson-Swift et al. 2007; Dickson-Swift et al. 2008). One of the saddest moments in the study was when I learned that Chris had passed away. I arrived at the care home and was informed in a relatively casual manner that he had passed away the week before:

> I was running late. I went through the back door and met the new cook. I introduced myself and said I was there to see Chris. He said, 'Don't you know, Chris died last week' … I was shocked. I had not expected that … My mind panicked. I had seen Chris last week. It happened early on Christmas Day … but I saw him on Christmas Eve. I went straight to see the manager, she said to me. 'Oh, didn't you get my email?'… I didn't get an email … I was shocked. I felt angry I had not been told. I felt sad ... I felt sorry for Chris, knowing that he wanted to make his 99th and 100th birthdays (he had promised his wife, and he hates letting people down), I felt sad for his daughter knowing what a close family they are, I felt sad for his other daughter and his grandchildren. I felt angry thinking that maybe his more potent dose of medication on the 24th was too strong for him; he said it made him feel unsteady on his feet. I felt angry knowing that that may have caused him to fall and pass out. (Quote from my journal – 31 December 2015)

The weeks after Chris's passing prompted deep reflection. I pondered ageing and the purpose of life, echoing thoughts others have shared (Johnson and Clarke 2003). I questioned whether I had spent enough time with him and criticised myself for not taking him to the Remembrance Service. I had arranged everything – his outfit, transportation, and assistance upon arrival. If only I had cancelled my plans and taken him myself. On the day of the service, it rained, and the care home staff convinced Chris not to attend, saying he might catch a cold in the rain. I wish I had taken him myself, as he was eager to go! The regret over whether I did enough kept spinning in my mind, as I expressed in my journal below:

> As I type this, I sit in front of the fire at home. At these times, one reflects on what is and will be. You question why you were always in a rush to get things done and why you were not in the moment ... maybe I should have stayed that extra 30 minutes with him [Chris]. He loved talking about his swimming, and I think he found talking about the war therapeutic. He had so much knowledge and still so much to give. He was generous with his time and enjoyed other people's company. Visiting Chris gave me the connection I needed to older people; although he was different from my grandparents, he was also very similar in some ways. It makes one cherish all the older people because they won't be around forever. When they die, their wisdom dies with them ... someone with knowledge, someone with life experience ... a guiding star. These are the people we need in this world; we need these wise people, especially today. (Quote from my journal – 31 December 2015).

Over the two-year period, I found the constant rollercoaster of confronting ageing and death emotionally draining and exhausting, as noted by others (Garrels et al. 2022). Dickson-Swift et al. (2008) identify emotional exhaustion and feelings of being overwhelmed as the main threats to researchers. These emotions haunted me, and I regularly recorded them in my journal:

> I feel angry at growing old and think, why does the body age? Why does old age have to leave the body so incapacitated? Why can't we die before the body gives up? I have seen older relatives become unwell and die, some fast and others slow. I haven't slept well the last two nights and wonder if my visit to the care home has anything to do with it. I have felt overtired but stimulated. I am tired of thinking about death. I know several people who are very unwell and some who have died. It makes me reflect on my mortality. (Quote from my journal – 10 April 2016)

In some of my journal entries, I described how this constant reflective state was turning my dreams into nightmares; it was affecting my wellbeing. The rollercoaster of emotions and its negative impact are reported by others (Lofland and Lofland 1995; Etherington 1996; Johnson and Clarke 2003; Warr 2004; Dickson-Swift et al. 2007; Mounce 2018; Jakoubek 2019; Brown-Wilson 2007). Looking back now, I cannot understand why, despite being aware of the advice from other researchers like Dewing (2009), I did not contact my supervisors for counselling. I must have thought it was expected to feel this way. The longer the fieldwork continued, the more deaths I observed and the more I reflected on my mortality. Dewing (2009) states that researchers will contemplate their own mortality. One of my earliest journal entries, dated 14 April 2014, expressed feelings of suffocation. These feelings arose when I helped at a tea dance where a live band played a series of Golden Oldies for residents. I was partnered with a gentleman who had dementia. Some residents were dancing while others shuffled around in mismatched slippers. Little did I know what lay ahead at the start of the fieldwork! The journal quote below captures these feelings and my desperate need to breathe fresh air:

> I suddenly felt sad at the tea dance; a combination of feelings overwhelmed me. Feelings of happiness (when the music was nice and most people were having fun) and sadness because the residents were all cooped up inside with such great weather outside. I suddenly had to leave. I felt suffocated. I wanted to slip out the door and to breathe fresh air … I left! I felt sweaty and tired, and my head was full of thoughts and strong emotions. I stopped and breathed. I thought about the fact that everyone was going to get old and die, and as I gasped for air, I questioned how we could enjoy ourselves knowing that. No one wants to get old!! (Quote from my journal – 14 April 2014)

6.7.3 The end

As the study progressed, I felt guilty about trying to distance myself from the care home. Many others have reported similar feelings of guilt when leaving the research site (Higgins 1998; Griffiths 2003; Dickson-Swift et al. 2007; Goodrum and Keys 2007). I had become exhausted but remained loyal to some of the participants, including Zara. Right from the start, Zara made it clear she was testing out the device; she firmly believed digital technology was harmful to society. She learned to use the handheld tablet well, but suddenly stopped after making a mistake while sending an email. Zara was embarrassed and angry. Consequently, she wanted nothing more to do with the handheld tablets. Then she had a severe stroke that left one side of her body paralysed, which changed everything. Zara went from being independent to relying on others. At that point, the sensible choice would have been for her to re-engage with the tablet, but she refused. Her family wanted her to use the device, and in desperation, her son gave her a typewriter. Ironically, Zara liked and could use the typewriter, but it was not suitable due to her poor physical health. I felt helpless standing by and watching. The following quote is from my journal written on 4 April 2016, where I reflected on visiting Zara. It was the penultimate entry I made, and once again, I felt the urge to get outside:

> Her son had given Zara an old typewriter. It was cumbersome, and in Zara's state, there was no way that she could set it up. She asked if I could help her the next time I visited; she didn't want to bother the carers. It was a shame she didn't try the tablet again – she could have used it for many activities. Both her sons had been on email. She was in touch with so many relatives, including the younger generation ... a generation that only communicates through technology. Although Zara disagreed with digital technology, she could have used it to stay in contact with her family. It's so important for people to move with the times. … Zara, for all her modern ideas, had been left behind because she didn't want to engage with new technology – a mixture of pig-headedness and lack of confidence. She felt that digital technology was suffocating today's youth and that they were not learning the right things in life – she felt that technology was to blame for all the bad behaviour! I left that day with mixed feelings, happy to see how much she had improved after the stroke, frustrated for

> knowing what was good for her but not being allowed to help her, and sad about what age does to people … I wanted to leave, to get out, to wash off the sadness I felt. I had not been at the care home for two months. That day changed everything. I felt angry. I thought that I did not want to go back. I felt suffocated and needed to get outside. I felt hot. I felt helpless. I felt sad about ageing. (Quote from my journal – 4 April 2016)

Ironically, my journal describes feelings of suffocation both at the beginning and end of the fieldwork. Reflecting on this, I feel somewhat uncomfortable about these intense emotions that have been recorded and that I am now sharing openly. I worry about what people will think when they read this account. Autoethnography requires the researcher to experience vulnerability, which can be uncomfortable (Ellis and Bochner 2000; Foster et al. 2006). In my final journal entry, the research came full circle. I no longer felt like a part of the care home community I had been involved with for over 450 hours; I felt like a stranger:

> I have been putting it off. I didn't feel up to going to the care home. It's like the residents are here one minute and gone the next. I walked through and saw a few people I knew. A lot were either in their bedrooms or no longer with us. I felt a sense of unfamiliarity and sadness. Where were the fun and happy carers I met two years ago? Where was Jackie, who was the life and soul of the place? Where were some of the wonderful residents who enjoyed a good laugh? Gone. I felt sad. I felt that the spark had gone. I felt that I wanted to walk away and not return. I felt guilty for feeling that. I felt the house could no longer give me anything more for my research. I felt that I wanted to end the fieldwork right then. I felt that I never wanted to return. I felt strange and out of place. I guess this happens when you do deep ethnographic research. I no longer belonged there – I left like a visitor. I was no longer part of the internal cogs and mechanics. I felt foreign. (Quote from my journal – 8 April 2016)

At the time, I did not realise that the journal entry above would follow my last visit to the care home. Not long after, my final participant, Penelope, passed away, marking the end of the fieldwork. Then Jackie, the gatekeeper and friend, departed after a long and fierce battle with cancer. After these two deaths, the emotional impact of losing two more people affected me, and feelings of sadness haunted me once again. This is consistent with others (Dewing 2009; Mounce 2018; Jakoubek 2019). After spending so much time at the care home, I finally felt disconnected and as if I didn't belong.

6.7.4 Summary

Initially, I believed that introducing handheld tablets to care home residents would be a straightforward process. Drawing from my diverse background in economics and research, I planned the study and scheduled the data collection dates on a timeline. Everything seemed organised, but then I entered the care home, and my plan was forced to change. Working with this age group proved to be more complicated than I had expected, despite extensive reading on conducting research in care homes. We are told that technology is the solution to isolation and many other problems. However, for individuals of a generation that did not grow up with digital technology, it is far more complex. I did not anticipate the amount of time needed to teach the participants how to use the devices. Additionally, I was unprepared for the constant rollercoaster of emotions I would experience along the way. Nonetheless, from my perspective, undertaking this study was worthwhile, although not all participants benefited from using the handheld tablets, as discussed in the conclusion. While the outcome is complex and mixed, I believe that the participants benefited from spending time talking with me.

Lastly, for me, information and communication devices serve as a lifeline for all aspects of social connectedness. I use email, WhatsApp, and Facebook as tools to stay in touch with family and friends in the United Kingdom and around the world. I enjoy being part of a community, whether it’s a local geographic community or an online one. I am an avid information gatherer and enjoy learning; I spend a considerable amount of time listening to podcasts. I would be lost without technology!

6.8 Conclusion

This chapter follows Chapter Five, where the initial results are presented, and the person-centred approach is thoroughly explained. In Chapter Six, seven cases are presented – one for each of the six participants, along with my autoethnographic account. Each case highlighted the uniqueness of the individuals and demonstrates why a one-size-fits-all model is ineffective for this age group, which has not grown up with digital technology. Therefore, I agreed with other studies suggesting that personalisation is vital for the long-term adoption of technology by older adults, as outlined in Chapter Two (Barnard 2013; Chan et al. 2016; Chen and Schulz 2016; Friemel 2016; Vaportzis et al. 2017a; Birkland 2019; Jin et al. 2019; Padilla-Góngora et al. 2017; House of Lords 2021). This chapter helped to answer the first research question: How does a handheld tablet intervention impact the wellbeing of older people living in a care home?

The impact on wellbeing from the handheld tablet intervention was varied due to the highly individual responses of participants. In my view, for those who could physically engage with the handheld tablets and embraced them, the devices had a notably positive effect on their lives. This was especially true for Penelope, who was physically able to use the device; the tablet restored her sense of control and choice by allowing her to sit comfortably while reading a book of her choosing. She repeatedly expressed her delight with her handheld tablet, calling it her lifeline. For Chris, who found it difficult to use the handheld tablet but was able to operate his laptop, technology—not specifically the handheld tablet—helped him remain connected to his old community, which he longed for. He derived great pleasure from video calling his family. John was similar to Chris in that he used his laptop and seldom used the handheld tablet, though it was helpful when he fell ill. For John, technology—not specifically the handheld tablet—was a lifeline he could not have managed without.

Zara had mixed feelings about handheld tablets and technology overall. While she often praised the ingenuity of the handheld tablet, she also harboured deep-seated frustration with technology, believing it was betraying society. During the five months Zara used the tablet, it had a positive impact on her life. It provided a new channel of communication, allowing her to email friends and family for free. In contrast, she had previously relied on the care home's landline and handwritten letters via Royal Mail. Additionally, as an information consumer, she enjoyed accessing large amounts of information. However, Zara suddenly stopped using the device. I can think of two reasons for this. The first is that she felt embarrassed and ashamed after mistakenly sending an email to her entire contact list, which led to one of her contacts replying to all and pointing out her mistake. I received both emails. The second reason, as Penelope informed me, was that Zara returned to her email after a period of illness and found a large volume of messages to respond to. At that point, she may have felt overwhelmed and experienced technostress. Hazel and Emma did not use the handheld tablet for long. Emma returned it after minimal interaction with me. She never showed any signs of stress or enjoyment, whereas Hazel was anxious about trying the device. After a very brief period, she became overwhelmed by the thought of using it. Consequently, Hazel experienced technostress.

My resistance to the narrative that perceives care home residents as passive recipients of care and technology, especially in an era where ageism and inequalities flourish, was the driving force behind this study. I aimed to give care home residents a voice. These feelings led me to investigate person-centred care. After extensive planning and research into conducting studies in care homes, I entered the environment and was unprepared for the emotional rollercoaster I would encounter. I spent over 450 hours at the care home and kept a journal exceeding 65,000 words. My autoethnographic account reflected some of these experiences. I experienced a mixture of sadness, guilt, helplessness, and joy. I constantly reflected on my mortality and questioned the process of ageing. I developed emotional attachments with participants and struggled to detach myself from the environment due to guilt. After losing several participants and my colleague, the care home transformed into a place I no longer recognised; I finally felt like a stranger. This chapter presents my autoethnographic account and reflects on my feelings during the research. It directly addresses the third research question: How does undertaking person-centred research in a care home affect the researcher?

The next chapter, Chapter Seven, explores the cross-case themes through the Five Ways to Wellbeing framework: to connect, be active, take notice, keep learning, and to give.

CHAPTER SEVEN: THEMES

This chapter is the third in the series of results chapters. It builds on the two preceding results chapters – the application of the person-centred approach in Chapter Five and the case series in Chapter Six. In Chapter Five, I discussed how I conducted the fieldwork in a person-centred manner. In Chapter Six, seven cases were presented—one for each participant and one for myself. In this chapter, Chapter Seven, all data collected through ethnographic and autoethnographic methods – including observations, informal discussions, interviews, and journal entries – is synthesised and presented thematically. The themes are organised according to the Five Ways to Wellbeing Framework (Aked et al. 2008; Michaelson et al. 2012).

As explained in Chapter Two, the Five Ways to Wellbeing was chosen as the primary framework. This framework originates from an economic context where its actions were designed to be easily understood by everyone, not just academics. The Five Ways to Wellbeing is used by numerous organisations, including Age UK, NHS Mental Health, Third Age, and the Mind charity, among others. The data presented here is categorised under the themes of the Five Ways to Wellbeing: connect, be active, take notice, keep learning, and give. Furthermore, this chapter incorporates the element of social connectedness, which supports connections to valued individuals, social groups, places, and communities (Liddle et al. 2021). Waycott et al. (2019) suggest that older people's experiences of social connectedness can be characterised by three interconnected dimensions: personal relationships, community connections, and societal engagement. These three dimensions are integrated into the themes presented below.

Thematic analysis was used (Braun and Clarke 2022a, 2022b) to examine the data, following the recommendations of other studies assessing the use of handheld tablets with older individuals (Jones et al. 2013; Baecker et al. 2014; Vaportzis et al. 2017b; Peek et al. 2016; Neves et al. 2018; Vaportzis et al. 2018; Neves et al. 2023; van Leeuwen et al. 2023). Data was actively explored during collection. After gathering the data, coding was performed to develop codes and labels (Ryan and Bernard 2000; Braun and Clarke 2022a, 2022b). All types of qualitative data was coded. The analysis had two main directions. First, it was organised by cases using thematic maps and concept mapping (Simons 2009; Martin and Hanington 2012; Lofland et al. 2022; Babbie 2013), along with memoing (Silverman 2011; Babbie 2013), to produce cases, which were presented in Chapter Six. Second, a cross-case analysis was conducted to identify themes (Ryan and Bernard

2000; Braun and Clarke 2006; Holloway and Wheeler 2013). The themes are presented in this chapter using the Five Ways to Wellbeing framework as a structural guide.

The data was analysed with an open mind, and several iterations were conducted before grouping them into themes (Holloway and Wheeler 2013). Given that wellbeing is multidimensional and heavily influenced by external factors (Diener et al. 2003; Dodge et al. 2012), and considering the study's person-centred lens (Slater 2006; McCormack and McCance 2010a; Brownie and Nancarrow 2013), some of the entries included are not explicitly related to the handheld tablets. These entries have been included due to the organic nature of the study and because they represented a common thread among participants. All of these contribute to the 'Formula of the Perfect Person' presented later in this chapter.

Additionally, due to my immersion in the environment, it was sometimes challenging to ascertain the impact of my presence on both the environment and the participants without considering the intervention, as highlighted by the Hawthorne effect[53] (McCambridge et al. 2014). Arguably, my presence in the care home, along with the introduction of the handheld tablets, could have been perceived as a disturbance in the environment. Nevertheless, this chapter presents the final round of data and contributes to the assessment of the research questions:

1. How does a handheld tablet intervention impact the wellbeing of older people living in a care home?
2. How can a person-centred approach be used to introduce handheld tablets to older people living in a care home?
3. How does undertaking person-centred research in a care home affect the researcher?

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[53] A phenomenon in which people change their behaviour when they know they are being observed or studied.

7.1 To connect

The first action of the New Economics Foundation's Five Ways to Wellbeing Framework is to connect with the people around you. Connecting with others is the cornerstone of life; investing in and developing these relationships enriches our daily lives. The New Economics Foundation describes the act of 'connecting':

> With the people around you. With family, friends, colleagues and neighbours. At home, work, school or in your local community. Think of these as the cornerstones of your life and invest time in developing them. Building these connections will support and enrich you every day (Aked et al. 2008: 5)

Humans require social connection and companionship (Waycott et al. 2019); connection with others is vital (Maslow 1943). A lack of connection makes us feel isolated, which can negatively impact our wellbeing, as shown in several studies (Dolan et al. 2008; Dolan et al. 2011; Cahill et al. 2018; Suragarn et al. 2021). Evidence-based approaches to promote wellbeing involve fostering connections to valued individuals, social groups, places, and communities (Liddle et al. 2021). An essential part of meaningful personal relationships is feeling valued, which can sometimes be more important than feeling safe for some individuals. Furthermore, contributing and feeling valued can be more meaningful for some people; where it 'highlights the importance of interventions that affirm and value personal contributions to relationship building' (Waycott et al. 2019: 70).

The theme connection is categorised into several sub-themes: linking to family, residents, care home staff, the researcher, and the community.

7.1.1 Connection with family

7.1.1.1 Technology

For three out of four participants – Penelope, Zara, Hazel, and Chris – technology acted as a communication channel. They utilised a range of applications, such as Facebook, Skype, and email, to stay in touch with family members. In some cases, the tablet served as an interconnector, meaning that both the participants' and their family members' activities revolved around using it.

Skype

Chris was eager to stay connected with his family. He had both a landline and a mobile phone, but he missed seeing their facial expressions. This can be explained by media richness theory, which suggests that video calls enable richer communication (Hill et al. 2015). Below is a quote from his interview, where he shares that he misses seeing his family:

> R (Researcher): We can use a program to call people on a video and see their faces.
>
> C (Chris): Yes.
>
> R: Would you like to call your family through the video?
>
> C: I would like to be able to do that. I would like to see them.
>
> (Quote from interview with Chris – 1 August 2015)

As a result, we began using Skype on his laptop. During our first Skype call, Chris was delighted to see everyone's faces, as noted by others. Below is a quote from my journal describing Chris's first call with his granddaughter and great-grandson. During the call, Chris was so overwhelmed with emotion that tears streamed down his face (Figure 39):

> Chris is on Skype now, and the process has gone smoothly. He could see Claire; he smiled as soon as he saw her. I could see that he was happy to see her. Claire's son also came to speak to Chris, and Chris was excited. Chris asked his great-grandson what sport he was doing, then said, 'You sound like you are thinking about it, and not doing it. Remember, everything you do at your desk must be done in sport.' Claire said that she had started running, and she was running 44 miles a week. Chris was pleased about that. They discussed her upcoming art exhibition. Chris was mindful of the time and kept saying that he had to go because of supper or because Claire needed to do work. With tears pouring down his face, Chris said several times, 'It is great talking to you and seeing you' and 'It is much better seeing you'. Chris told Claire about the Memoirs he is writing; Claire said she was looking forward to reading them. Claire said, 'You have had such an interesting life, Granddad.' Chris said, 'Is Marg [his daughter] with you? I want to see Marg. I miss her.' I jumped in and said we could arrange a call with Marg on a weekend day. Claire said that would be great; she could arrange for everything to be set up. After we put the call down, Chris thanked me repeatedly; he said, 'That was marvellous'. He put out his hand and held my hand and thanked me again and again. (Quote from my journal – 16 November 2015)

Chris was animated while talking with his family on Skype. He became excited and used hand gestures; he was pleased to see his daughter, granddaughter, and several of his great-grandchildren. This level of interaction would not have taken place during a phone call. This finding aligns with reports from other researchers, who have shown that the absence of physical presence is offset by eye contact during video calls (Hietanen et al. 2020; Balki et al. 2023; Petersen et al. 2023; Clayton et al. 2024). Skype provided a means of connecting across distances

(Vroman et al. 2015). Below is a quote from my journal where Chris and his great-grandson were blowing kisses to each other:

> 'You know I can see things like that now,' says Chris. 'I have a lovely smiling little girl in my view.'
>
> Chris was laughing and smiling at the great-grandchildren.
>
> Marg (his daughter) said, 'Great to see you, Dad.'
>
> 'Bye Grandad', says one of his great-grandchildren, blowing kisses down the screen. Chris was laughing and blowing kisses to them. It was a heartwarming interaction between the two of them. (Quote from my journal – 27 November 2015)

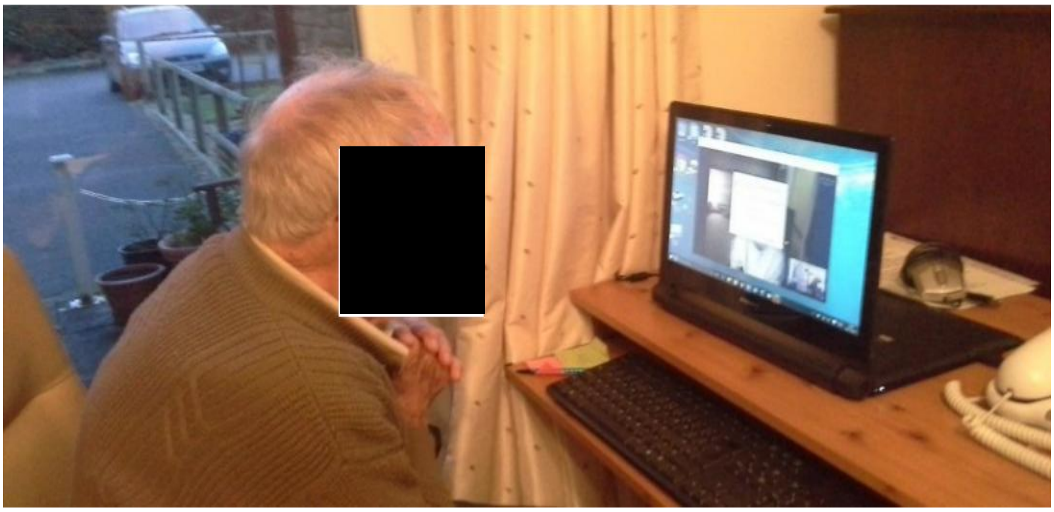

Figure 39: Chris on Skype to family

(Photo: Harvie 2014)

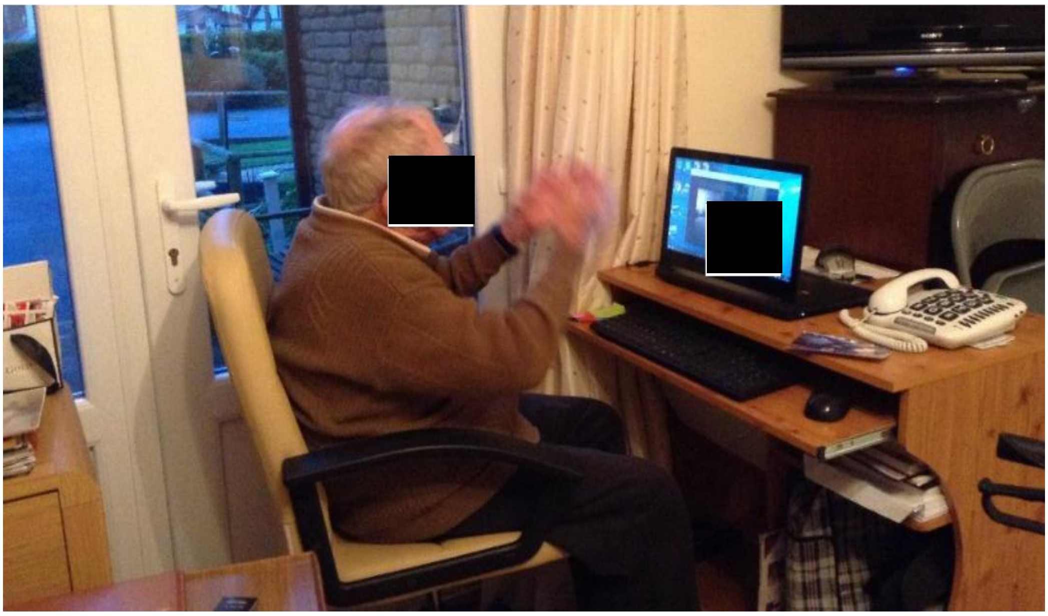

Figure 40: Chris animated on Skype to family

(Photo: Harvie 2014)

Chris was the only participant to use Skype, which was on his laptop rather than his handheld tablet. I observed that he benefited greatly from the video calls with his family. I discussed video calling with Zara and John, both of whom showed interest in trying it out. However, neither of them ultimately used it.

Email

Three of the six participants used the handheld tablet's email feature to communicate with family, including Zara, Penelope, and Hazel. Additionally, John used email independently on his laptop to connect with his family. Hazel used email for the first time in this study when she emailed her niece’s children, who lived outside of Cornwall, UK. She rarely communicated with them by telephone, so she looked forward to emailing. As reported in Chapter Six, Hazel left the study shortly after joining due to the stress of using the technology. Other researchers identify this technostress as an issue (Tarafdar et al. 2007; Ayyagari et al. 2011; Neves et al. 2023; Clayton et al. 2024). According to Neves et al. (2018), her swift exit could have resulted from her limited family connections being accentuated after receiving only one email.

For Zara, her primary means of communication consisted of handwritten letters sent via Royal Mail and calls made on the care home landline, as she did not have her own landline in her bedroom. Upon joining the study, she started using email to stay in touch with her family. Zara appreciated receiving emails from family members and realised she was in more consistent contact with the younger generations who normally would not send her a handwritten letter as reported by others (Jones et al. 2013). Additionally, she enjoyed receiving photographs and jokes from relatives. Utilising email on her handheld tablet allowed her to maintain regular communication with her family at no cost while also sharing photographs.

Zara’s family, especially her son, who lived far away, encouraged her to use email as a means of communication. They were the main reason she started engaging with handheld tablets; their encouragement supports findings from other researchers (Clayton et al. 2024). Zara’s grandson, who lived nearby, would email her to plan visits, and on one occasion, they took group photos that were shared widely among the family via email. Zara valued her privacy while emailing and disliked having me or any care home staff watching her screen. This desire for privacy when using such devices aligns with existing literature (Balki et al. 2023). An unexpected result of Zara’s email use was her difficulty in understanding the proper etiquette, as she felt she had to reply to every email immediately. The literature suggests that older adults face particular challenges with digital technologies due to differences in familiarity and comfort with online platforms (Polanco-Levicán and Salvo 2022). According to Vercruyssen et al. (2023), studies have shown that socio-emotional literacy is closely linked to digital literacy, particularly in how older users interpret social cues and manage online interactions.

A range of channels of communication

Before the study, Penelope was a technology user with a desktop computer and a laptop. However, over time, she shifted towards using the handheld tablet for everything because of its convenience and the comfort of using it in her armchair. Others report that this feature of the device allows them to sit comfortably wherever they choose (Jones et al. 2013; Tsai et al. 2017). She used applications such as email and Facebook to communicate with her family. Penelope had no friends and focused solely on her family, who had been the primary influence in teaching her how to use technology. Others report the role of family in helping their older relatives get online (Clayton et al. 2024). Her actions exemplified socio-emotional selectivity theory, where she sought interactions with familiar people (her family) and showed little interest in forming new relationships (Carstensen et al. 2003).

7.1.1.2 Non-technology

A recurring theme among participants was the influence of family members on their lives. Many relationships were positive, such as Penelope’s family teaching her to use technology and helping her with issues like the complex installation process of the internet in her bedroom. However, some relationships caused participants to lose control over important aspects of their lives, including leaving their homes, moving into a care home, disposing of possessions, and obtaining replacement items.

During the data analysis and write-up of the autoethnographic account, I realised that my deep-seated desire to connect with my family, particularly the older generation, likely influenced how the fieldwork was conducted. By getting to know the participants through shared narratives and experiences, the person-centred ethos may have fostered a bond resembling a grandparent–

grandchild dynamic between me and some participants. My relationship with participants was founded on mutual understanding and support, which helped build rapport. Nevertheless, I always remained aware of the ethical considerations, striving for a balance that allowed emotional connection without compromising my professional integrity.

7.1.2 Connection to residents

Some residents felt socially disconnected and were eager to connect with fellow residents, as reported in (Dening and Milne 2008; Dening 2011; Age UK 2014); while other residents preferred to distance themselves from their neighbours.

7.1.2.1 Technology acted as an interconnector

As the popularity of handheld tablets increased, the devices became a common topic of conversation among residents. The devices ‘acted as glue’ for five out of six participants, specifically Zara, Chris, Hazel, Penelope, and Emma. Others reported that devices supported relationships (Jacobs et al. 2017a) and served as an interconnector (Jones et al. 2013). Although I encouraged interactions among participants, they did not occur as frequently as I had hoped. On several occasions, I found Zara and Penelope sitting together at a table in the dining room, using their handheld tablets and waiting for me (Figure 26). I am aware of several conversations over lunch between Penelope, Zara, and Hazel regarding the handheld tablets. These occasions were all resident-led.

When participants left the study, those remaining took it upon themselves to explore why they no longer wished to participate. Zara inquired with Emma about her exit and reported back to me. Additionally, Penelope believed that Zara preferred handwritten communication over electronic, as explained in the interview quote below:

> I don’t think she is [Zara] into pressing buttons … She [Zara] likes writing, she loves writing letters, umm, and whether she was getting emails and she felt she had to reply to them, and it was a bit of a, umm, a test for her because she did not quite know what she was doing, I do not know. (Quote from interview with Penelope – 9 October 2014)

After Zara left the study, Penelope explained that Zara found the volume of emails to be overwhelming. Below is a quote from my journal describing our exchange:

> I said that Zara had given her tablet back and that she was no longer interested in using it. Penelope said that Zara had opened it up one day and found ten messages, which she found overwhelming. Penelope said she was enjoying her tablet and would not return it because she could not do without it. (Quote from my journal – 6 March 2015)

Mealtimes in the dining room were a social occasion, as most residents attended. In a desperate attempt to connect with others, Chris would always walk to the water machine and chat with residents on his way back. Sadly, no one was interested in talking with him! However, through these interactions, Penelope informed me that Chris needed help with his technology. Below is a quote from her interview explaining how she reached this conclusion:

> It was probably at lunchtime when I heard him [Chris] say it [needing help with the technology]. Because he is nearly always in to lunch and so am I, we are into meals, and he walks past to get his glass of water and then stops and has a chat. And you hear all about his … The other day, he had all his medals strung on his trolley ... he always wants to tell you about his sporting activities!' (Quote from interview with Penelope – 9 October 2014)

Our training sessions in shared spaces had an unexpected impact on a resident with dementia, where she was observed mimicking our keyboard tapping:

> She [Zara] told me that following our session earlier in the week, which Vicky [resident with dementia] had sat in on, Vicky had later been seen in the green room tapping the back of her hand like Zara had been tapping the screen. She had copied what we had been doing earlier that day. (Quote from my journal – 1 February 2015)

Participants connected through photographs displayed on the notice board. Taken on handheld tablets, these images featured the participants using the devices. The photographs acted as conversation starters among residents.

Ultimately, I connected with all participants through the handheld tablets, maintaining a person-centred ethos. I also engaged with some participants via email and Facebook. As outlined in Chapter Three, rapport was established using Gerontechnological Principle Guidelines (GPG), focusing on understanding the individual and fostering authentic engagement. Employing in-depth ethnographic methods over an extended period resulted in an emotional attachment to the participants (Dickson-Swift et al. 2007; Dickson-Swift 2008). The connection was particularly intense when we shared a common interest. Consequently, I experienced a range of strong emotions and often reflected on ageing and my mortality. My autoethnographic account is presented in Chapter Six.

7.1.2.2 Non-technological desire to connect

Several residents participated in activities at the care home to socialise with others. However, most of my participants showed little interest in connecting with fellow residents. Chris was the only participant eager to reach out, feeling profoundly lonely. This loneliness was probably due to the recent passing of his wife, Jinny. Neves et al. (2019) report that losing a spouse can lead to feelings of loneliness. Chris expresses these feelings of loneliness in the following interview quote:

> Researcher (R): Chris, do you feel lonely living here? Do you talk to other residents?
>
> Chris (C): I, I feel very lonely here. And you see, with all women virtually, there's only Rob here, and umm … You see, I've only had one lady in my life, we'd been married 75 years. There is no way that I want to have another. So, I am lonely.
>
> R: Do you spend much time with anyone living at the care home?
>
> C: No.
>
> R: You don't really know many of the people?
>
> C: No, I don't really know them, and I would like to. And I just don't know how to do it.
>
> (Quote from interview with Chris – 1 August 2015)

Chris tried different tactics to connect with residents. One method involved sharing stories about his life, but many residents sadly found his tales uninteresting and tended to avoid him. Some residents mentioned that they saw his anecdotes as boastful. On numerous occasions, I observed residents physically turning away from him when he approached, as detailed in my journal quote below:

> Chris came in while I was in the dining room on his way for a walk. He talked a bit (well, quite a lot) and tried to talk to Hazel. She was quite nice to him and listened, but she also said things like 'Yes, you told me' and 'Yes, you showed me.' (Quote from my journal – 28 September 2015)

Watching Chris's profound loneliness and desperate attempts to connect with other residents, who disregarded his advances, was upsetting for me.

7.1.3 Connection to care home staff

7.1.3.1 Technology acted as an interconnector

After a difficult start, when carers told me they lacked the time to assist residents with the handheld tablets, the devices eventually became a link between the residents and the care home staff. Many carers enjoyed seeing the participants' increasing confidence in using the technology. Carers often expressed their admiration for the participants learning a new skill. Zara's training sessions in the dining room usually led to carers discussing the handheld tablet – it became a popular topic, as noted by Jones et al. (2013).

As the study progressed, Penelope found that the care home staff were pleased to see her using the handheld tablet, and sometimes a staff member would help her. Below is a quote from her interview in which she explained that the cook had assisted her with an issue on the handheld tablet:

> Janet, one of the cooks, is excellent. She found me [Penelope] … I was having a problem and she said 'Oh, come on, I'll do that for you' umm, umm. I forget now what it was, but something wasn't working. (Quote from interview with Penelope – 9 October 2014)

The sight of residents using handheld tablets was often met with joy and intrigue. On one occasion, I observed a non-tech-savvy carer watching Chris on Skype with his family. The carer watched for a few minutes and was delighted. I noted that two participants, Penelope and Zara, were using electronic means to contact the care home staff. Zara was in touch with Kiera, a carer, via email, and had an electronic copy of her rota. She was also communicating with Jackie through email. Penelope and Jackie interacted on Facebook. Jackie explains their interaction on Facebook in my journal quote below:

> Jackie: Yes, we're Facebook friends. And when she [Penelope] came on Facebook, oh, this is great, and we had little bits of conversations and I was involved with it, and I still am her friend. And she puts little comments with me, and I put comments with her, and we share things … (Quote from interview with Jackie – October 2015)

As the study progressed, the atmosphere at the care home remained positive, with several staff members being highly supportive of residents using handheld tablets.

7.1.4 Connection to researcher

The foundation of this study was based on a person-centred approach using ethnographic methods to foster connections with the environment and the participants. I developed the GPG to guide the study: communication, self-awareness, capability, understanding the person, empowerment, and authentic engagement. I believed that this approach would build rapport (Daly 1992; Higgins 1998; Dickson-Swift et al. 2007; Luff et al. 2011; Goodman et al. 2012) and strengthen the connection between the participants (and the environment) and myself. These concepts were explained in detail in Chapter Three. Following the implementation of the GPG, all six participants connected with me, some on a deeper level, particularly when a common interest was recognised. This aligns with findings reported by other researchers regarding the importance of shared interests in fostering deeper connections (Neves et al. 2023). Although the connection extended beyond technology, all participants felt supported in using the handheld tablets during the study. Other studies confirm that high-quality support is crucial when instructing this age group on using handheld tablets (Barnard et al. 2013; Tsai et al. 2017; Vercruyssen et al. 2023; Clayton et al. 2024). Furthermore, many residents enjoyed spending time with me. When I assisted with activities at the care home, several residents would come downstairs to engage with me, either in conversation or by participating in crafts. They all enjoyed our discussions. In some cases, these dialogues evolved into debates with Zara and the care home staff regarding the impact of technology on society today.

Jackie and I spent considerable time together; she found our relationship both comforting and exciting. Jackie believed that I had become part of the care home culture, as recognised by others (Dewing 2009). Below is a quote from her interview, in which she described how much she enjoyed our time together:

> I've enjoyed you being there, and I hope that it's something that we can do for a while because … Yeah, you've become part of, part of the things I do there, you know. I look forward to seeing you and we can do things together. Um, yes, I've enjoyed working with you. Not only have you been an extra pair of hands when it's been needed, but just generally working with you, um, and also, I think the residents have got a lot of out of it as well because, you know, it's another person they can speak to. Because you and I are in a different position than a carer, they see us differently from the carer side of it. And they ask us to do simple little things and tell us things they feel they can't tell a carer. … I think it's lovely. It's another side that we're both offering. (Quote from interview with Jackie – 15 October 2015)

7.1.4.1 Unsustainable connection to researcher

Many other studies (Friemel 2016; Neves and Mead 2021; Paulovich et al. 2022) recommended one-to-one training, which participants and residents ultimately desired. However, it remains questionable whether this model can be maintained in the long term for care homes due to the staff's workload.

7.1.5 Connection to the community

Having meaningful community connections boosts feelings of belonging, such as being part of a church or neighbourhood, as shown by various studies (Cloutier-Fisher et al. 2011; De Donder et al. 2012; Forsman et al. 2013; Waycott et al. 2019). Nisbet (1953) believed that the human desire for community is one of the strongest needs of human nature. For some, reassurance comes from knowing their neighbours, providing a stable foundation for everyday life (Forsman et al. 2013). Therefore, relocating to a care home and severing those ties can lead to feelings of isolation (Weiss 1973). According to Waycott et al. (2019), activities that promote community connections can enhance feelings of belonging among individuals who move into care homes.

7.1.5.1 Enhanced by technology

Zara was one of the residents connected to the wider community, reaching as far as Falmouth. She attended the local church hall for a weekly coffee morning and visited the local beach café or vintage coffee shop twice a week for a hot chocolate. Friends, living locally, would join her on these outings. Sometimes, she would arrange these via email, coordinating times and transportation to the vintage coffee shop. When Penelope stopped attending the local art group, she kept members updated on her artwork through her blog. Her daughter-in-law helped upload her latest pieces. Chris was eager to reconnect with his former neighbour of 40 years, feeling quite lonely at the care home. One day, I arrived at the care home to find he had typed a newsletter for friends and neighbours using Microsoft Word. For some, he emailed the letter; for others, he posted it. He was desperate to stay in touch, as I mentioned in my journal quote below:

> He showed me that he had started writing a newsletter to friends and family. I found it on the computer and made a shortcut to it. He said he wants to get going and keep in touch with everyone. He repeatedly said, 'I

> want to keep in touch with everyone.' He worries that he is losing touch after moving to the care home. He says he plans to email and post some, depending on the recipient. (Quote from my journal – 22 October 2015)

7.1.5.2 Desire to connect with no tech

Penelope connected with a local community group through the art class she attended weekly at the village hall. She continued to visit the group, even as her painting skills declined. Below is a quote from her interview, where she explains that she arrived partway through the session without her materials to chat and look at everyone's artwork:

> Oh yes, hmm. I went out on Wednesday. I went along to the art club. I didn't take any painting with me, but I just went. I went along about halfway through the afternoon. Because they usually start at 1.30, which is a bit early for me after lunch! But I went along at 2.30 and sat with them, talked to them and looked at all their paintings, and it was a lovely afternoon. (Quote from interview with Penelope – 9 October 2014)

Being outside the county where he had previously lived, Chris had no connections within the community, but he began to forge these links as soon as he left the care home on foot. Coming from a neighbourhood with a strong sense of cohesion, Chris was eager to meet others in the area. Every day, he walked the same route along the pavements where he encountered community members. During these walks, Chris got to know residents who were picking up their children from school or passing by on their way to the park. He started building friendships and looked forward to his daily walks. Over time, Chris continued connecting with the local community and was invited into people's homes for tea. Below is a quote from my journal:

> Chris said he had been invited into some residents' houses (up the road) and would take photos and talk to them. He is desperate to get to know people and become involved in the community. (Quote from my journal – 3 September 2015)

These connections grew stronger, with two residents assisting Chris in attending a war veteran memorial service at the local church hall. They helped him sit and stand throughout the service, and he thoroughly enjoyed the outing. Chris continued to touch people's hearts. After he passed away, several concerned residents visited the care home to inquire about him:

> A few locals have knocked on the door and asked about the older adult who used to walk to the park and chat along the way. It seems to me that Chris made friends wherever he went – he touched people's hearts. (Quote from my journal – 1 February 2016)

7.2 Be active

The second action of the New Economics Foundation's Five Ways to Wellbeing Framework is to be active and participate in an activity that brings you joy. This activity can be stationary, such as playing an indoor game, or it can take place outdoors, with additional ideas listed in the Dwelling Mobility Lattice (Galvin and Todres 2011, 2013, 2018) in APPENDIX 1. The goal is to utilise your brain and body as long as your mobility permits, allowing for active participation. The New Economics Foundation describes 'being active' as:

> Go for a walk or run. Step outside. Cycle. Play a game. Garden. Dance. Exercising makes you feel good. Most importantly, discover a physical activity you enjoy, one that suits your level of mobility and fitness (Aked et al. 2008: 6).

Activity Theory, one of the most influential theories of successful ageing, emphasises the importance of remaining engaged in activities for the wellbeing of older adults (Havighurst 1961; Rowe and Kahn 1997). This theme includes the dimension of social connectedness in societal engagement, which refers to participation in activities, ideas, and information (Waycott et al. 2019). It is defined as encompassing not only a person's access to information and resources but also their ability to contribute – even in small ways – to society (Waycott et al. 2019 :71). While engaged in society, a person may experience personal relationships with limited community connections yet still maintain a sense of belonging, such as through involvement in political issues or events. The element of contributing to society, as part of societal engagement, is addressed in the final theme, 'to give,' which will be discussed later in this chapter. The theme of 'being active' is divided into two sub-themes: services and the natural environment.

7.2.1 Services

7.2.1.1 Technology as a lifeline

For some participants, technology served as a vital link to the outside world, enabling their involvement with society, as noted by researchers (Van der Goot et al. 2012; Queen et al. 2014; Waycott et al. 2019). Penelope, who learnt to use a computer after retiring, believed that technology had a positive effect on her life:

> If I hadn't had it (technology), well, I wouldn't know, but life would be very dull. (Quote from interview with Penelope – 9 October 2014)

When I met Penelope, her family helped her with various tasks. Her daughter-in-law chose books on her behalf at the local library, which were sometimes not to her taste. Once Penelope mastered the handheld tablet, she gained access to the Cornwall Library catalogue of eBooks, audiobooks, and magazines. Her shift from physical books to digital ones can be explained by selective optimisation and compensation theory, which suggests she continued reading but compensated by switching from heavy books to an electronic version on the handheld tablet (Baltes 1997). Accessing these services online restored some control for Penelope, as shown by other studies (Van der Goot et al. 2012; Queen et al. 2014; Waycott et al. 2019). She also used the device to enjoy BBC iPlayer, Sudoku, crosswords, and browse the internet. Additionally, Penelope engaged in online shopping, with her purchases delivered to the care home. Below is a quote from my journal describing her interaction with some applications:

> I asked Penelope if there were any books she wanted to download; we downloaded two. She was delighted. That will keep her busy while I'm away. She said she has been spending some time on her tablet looking for Sudoku and crosswords. She likes the Sudoku that give her the answers if she can't work it out. She said she managed to find one that was pretty good. She also likes basic crosswords. Penelope also said that she watched a program on BBC iPlayer; she found the app very easy to use and would use it again. (Quote from my journal – 20 Oct 2014)

John spent most of the day on technology, using his handheld tablet only for short periods. He mainly watched videos on YouTube and felt very grateful for the tablet when he became less mobile or during hospital stays, as it allowed him to continue watching YouTube in bed. Zara did not use the handheld tablet for entertainment; instead, she used it to access information on the internet. During my time working with Zara, we explored many facts, some of which are noted in her case in Chapter Six. She also enjoyed viewing poems and listening to songs on the handheld tablet. Chris did not personally use the laptop or handheld tablet to access information or services. However, his family shopped online on his behalf for various equipment, such as a new walker. Chris found searching for equipment online to be difficult; he preferred shopping in person for the products he needed.

Jackie, the activities coordinator, believed that handheld tablets were a powerful tool for connecting residents with the outside world. Below is a quote from our interview where she explained how residents enjoyed watching her dog compete in an agility competition:

> R (Researcher): Do you think computers and tablets in a care home have a place?
>
> J (Jackie): Yes. Yes, I do. I do. Just for the sheer thing of contact, outside contact, and umm, umm, giving them choices, people can order things they need, apply information, and keep in contact with families. And umm, they can see the outside world rather than where they are. Because they're contained in four walls most of the time but to, it gives them a step to the outside world. Umm, even down to the fact that my son is on YouTube, I go round and play the video. Or, umm, I think up at Looe Festival, I tell them I'm going. They're interested in my life because it is part of their life and, umm, they want to see what happened. Then they asked me what had happened and what it was like. Because they haven't got that choice, it brings my life to them, and I'll show them. I take videos and pictures, and, you know, Betty [dog] is doing her agility. They want to know what she does. They've seen her; she comes into the home and visits them, but they haven't seen her do agility. So, I've got a video of her jumping over the jumps and going through the hoops, and they love it, you know … I think it keeps them in contact with the real world. (Quote from interview with Jackie – 15 October 2015)

I regularly used the handheld tablet to access information and services for this study. I did this with participants during training sessions and with other residents during craft activities. I spent over 450 hours at the care home; some of this time was spent collaborating with Jackie on activities and assisting participants. During this period, I made extensive use of the handheld tablet. I used applications such as Google Earth to explore locations, Wikipedia for facts, Google for internet searches, the Cornwall Library application for books, Pressreader for magazines, BBC for news, BBC iPlayer for programmes, and YouTube for shows. Penelope and John were fairly self-sufficient with the handheld tablets; however, Zara and Chris needed assistance, so I accessed most of the applications mentioned above during our training sessions.

7.2.1.2 Non-tech lifeline

All the participants watched television and had one in their bedrooms. Reports suggest that connecting with society through television was a common activity among older adults (Van der Goot et al. 2012; Queen et al. 2014). Penelope, John, and Hazel had a subscription to SKY and could access programmes on demand.

Several residents and participants took part in activities at the care home. Four out of six participants – Penelope, Zara, Emma, and Chris – participated in activities such as still-life painting, bingo, journal club, and outings. Their involvement varied according to their preferences, including who else was participating. These activities helped them stay actively involved in the care home community. Part of my time spent engaging with care home life was with Jackie on activities unrelated to technology.

7.2.1.3 Disengagement

Few residents would admit they felt bored living in the care home. However, Chris, who had recently moved in, was unashamed to express this during his interview:

> I'm, I'm bored … Yes. I've been used to doing things all the time and, umm … But I will do my very best. (Quote from interview with Chris – 1 August 2015)

As time passed, some participants started to withdraw from the care home activities because they did not want to mingle with residents who had cognitive impairments such as dementia. This was especially true for Penelope and Zara.

7.2.2 Natural environment

7.2.2.1 Non-technology engagement

The collective body of research provides strong evidence that interactions with the natural environment significantly enhance psychological wellbeing. The positive impacts on mood, cognitive function, and resilience to stress are well-supported by various studies, which clearly affirm the role of nature in improving overall mental health (Annerstedt and Währborg 2011; Keniger et al. 2013; Harvie 2014). Three out of six participants – Zara, Chris, and Penelope – regularly spent time outdoors. Zara enjoyed sitting outside at the beach café, sipping hot chocolate, and her bi-weekly visits to the café were with friends who lived locally. Additionally, Zara liked sunbathing in the garden at the care home whenever the sun was shining! Penelope also valued the outdoors and would occasionally drive down to the beach on her red motorised scooter to admire the view and find inspiration for painting. She found that these visits lifted her mood, as explained in the interview quote below:

> Oh, it's great for my ego, yes … I umm, I find that I always give myself a pat on the back for making the effort. Because it is an effort, you've got to change your shoes and put a coat on and … You don't know what the weather's like …Yes! Just making the effort, especially if you're depressed. If you just make the effort to go out for a little walk it's amazing what a difference it makes. (Quote from interview with Penelope – 9 October 2014)

Chris enjoyed spending time in nature; it was a lifelong passion vital to his daily life. Throughout his life, Chris participated in various sports, including marathon running. He completed his last marathon at age 68. When I met Chris, he needed his outdoor fix at least three times a week, often walking around the village and ending up in the park. Days before he passed away, Chris was unwell and expressed a strong need to go outside, to breathe fresh air and replace the overheated, stale air from the care home. In my autoethnographic account, I also describe feelings of intense desire to go outside and breathe fresh air due to overwhelming sensations of suffocation while in the care home.

The positive feelings expressed by Zara, Chris, and Penelope from their outdoor activities align with findings from other researchers, who reported increased levels of wellbeing when older adults engage in physical activity (Phoenix et al. 2010). Moreover, these three participants maintained a lifelong connection with the natural environment, which persisted as they aged. This can be explained by the continuity theory, which suggests that individuals tend to continue with the patterns they develop throughout their life (Bengtson et al. 2005). It also relates to the selective optimisation and compensation theory, which indicates that behavioural compensation occurs as people age (Baltes 1997). In this case, Zara, Penelope, and Chris undertook shorter outdoor activities due to their limited mobility. They were supported by a walker or scooter, yet they still enjoyed being outdoors.

7.3 Take notice

The third action of the New Economics Foundation's Five Ways to Wellbeing Framework is to take notice by being aware of the world around you and savouring the moment. The New Economics Foundation describes the theme 'take notice' as:

> Be curious. Catch sight of the beautiful. Remark on the usual. Notice the changing seasons. Savour the moment, whether you are on a train, eating lunch or talking to friends. Be aware of the world around you and what you are feeling. Reflecting on your experiences will help you appreciate what matters to you (Aked et al. 2008: 8).

Reminiscing about past events, savouring the present, and anticipating future moments are the essence of becoming aware and can lead to positive feelings (Smith and Hanni 2017). Savouring the moment, a concept rooted in positive psychology, refers to the process of enhancing and prolonging positive experiences by consciously attending to and appreciating life’s enjoyable moments (Jans-Beken et al. 2019). This practice has garnered significant empirical support for its role in enhancing emotional wellbeing and resilience across various populations, particularly among older adults and individuals facing stressors such as chronic illness. Taking notice can be a passive activity while seated, according to Galvin and Todres (2011, 2013, 2018), as demonstrated in APPENDIX 1. Heathcote et al. (2011) recommend that a low-key passive activity done in a seated position can contribute to ‘taking notice’.

‘Taking notice’ is especially important for individuals with limited mobility because of fewer opportunities to engage in activities (Smith et al. 2020; Galvin and Todres 2011, 2013, 2018). This theme aligns with activity theory, a key theory of successful ageing, which highlights the importance of staying engaged in activities for older adults’ wellbeing (Havighurst 1961; Rowe and Kahn 1997). The theme of ‘taking notice’ is divided into two sub-themes: savouring the present and reminiscing.

7.3.1 Savouring the present

Chris exemplified someone who sat and savoured the moment. In the afternoon, he visited the local park to appreciate its beauty before the school day ended and before the chaos of after-school playtime began. This is reflected in the interview quote below:

> Chris: So, I go round the back of this place, along to the park, through the park, have a 20-minute rest in the park. That’s because it’s so quiet and peaceful, and many varieties of flowers, trees, and bushes exist. It’s a pleasure to be in something so quiet. And I’ve also found that some parents go there with the youngsters. I was also involved with young children, and I get on well with the two to six groups and the teachers of them round the corner here. I go round and quite often have a chat with them. But sometimes, umm, I’m cautious. One of the teachers once approached me, and one boy pushed a girl over, so I try to avoid them when they’re playing. (Quote from interview with Chris – 1 August 2015)

Chris also enjoyed our Thursday morning sessions, after which he repeatedly thanked me for my visit. John was another participant who thoroughly appreciated these sessions. As mentioned earlier, as time went on, these sessions shifted from being about technology to being more about conversation. Jackie was delighted to have my help at the care home and found great reassurance in knowing that the residents were receiving attention from both her and me. Below is a quote from her interview where she explains this:

> Jackie: And you do that because you've actually seen some of the people I can't get to, and that is a lovely help because when they say, oh, Tammy spent an hour with me the other day, I think, how lovely. And I know that person has had some attention. (Quote from interview with Jackie – 15 October 2015)

7.3.2 Reminiscence/past

The consensus among researchers is that recalling the past is therapeutic for older adulyts (Stake 2006; Brown-Wilson et al. 2009; Dewing 2009; Froggatt et al. 2009). Therefore, reminiscence was included as a strategy in GPG under Knowing the person. Four out of six participants enjoyed reminiscing. For two participants, Chris and John, reminiscing was the focus of our discussions. Sometimes, these discussions involved using the handheld tablet to look up facts, photographs, and maps.

Chris enjoyed sharing his life experiences, including his time as a soldier in the war and his passion for swimming. Occasionally, I would help him go through his box of treasured possessions, each item holding a unique story. Sometimes, I would tell Chris about the tales of my great-grandfather, who commanded 38,000 troops on D-Day. I always wondered if Chris, who served in the Royal Army Medical Corps on D-Day, had crossed paths with my great-grandfather, whom I had never met.

My conversations with John often turned to his life in Africa. He loved sharing stories about his adventures, the restaurants he visited in Cape Town, and the wine farms he experienced in Stellenbosch. Africa never leaves your soul, and this subject resonated with me, having grown up there.

Throughout the study, I engaged in extensive reflection, recording numerous anecdotes in my journal where I contemplated ageing and my mortality. Other researchers have documented this pattern of thought (Brown and Tropea 2021). This was part of the GPG strategy under self-awareness. Self-awareness is not an innate skill; it develops through lifelong learning and personal growth based on self-reflection (McCance and McCormack 2017). Encouraged to enhance self-awareness, self-reflection is recommended (Finlay 2003; McCance and McCormack 2017). An autoethnographic element emerged during analysis due to the extensive self-reflection. Consequently, an autoethnographic lens was adopted, leading to the formulation of a third research question. This new question examined the impact of the research on my own sense of self. As a result, my autoethnographic account is included as a case study in Chapter Six, while the practical aspects of working in a person-centred manner are detailed in Chapter Five.

7.4 Keep learning

The fourth action of the New Economics Foundation's Five Ways to Wellbeing Framework is to 'keep learning'. We challenge ourselves to learn something new or revisit activities we once enjoyed for fun, enriching our daily lives. The New Economics Foundation describes 'keeping learning' as:

> To try something new. Rediscover an old interest. Sign up for that course. Take on a different responsibility at work. Fix a bike. Learn to play an instrument or how to cook your favourite food. Set a challenge you will enjoy achieving. Learning new things will make you more confident, as well as being fun to do (Aked et al. 2008: 9).

This theme aligns with three theories: activity theory, selective optimisation and compensation theory, and continuity theory. Activity theory posits that individuals who participate in social activities experience greater life satisfaction (Havighurst 1961; Lemon et al. 1972; Menec 2003; Rowe and Kahn 1997). Selective optimisation and compensation theory is relevant because all participants adjusted their activities as they aged, taking on less demanding tasks, such as switching from reading a heavy book to reading an eBook on a lightweight handheld tablet (Baltes 1997). Additionally, continuity theory is relevant because individuals tend to follow familiar patterns throughout their lives, particularly in terms of personality consistency (Bengtson et al. 2005; Bowling 2007). Participants who engaged in lifelong learning maintained this trait by seeking to acquire new skills in their later years (Delello and McWhorter 2017). It can be argued that all participants embraced the 'keep learning' theme by learning to use the handheld tablet as part of the study. However, two participants, Penelope and Chris, distinguished themselves as lifelong learners, both of whom passed away while still enrolled in the study.

The theme of 'keep learning' has no sub-themes, but it is divided into technology-enabled learning and non-technology learning.

7.4.1 Technology-enabled learning

Two of the six participants, Penelope and Zara, believed that learning to use technology helped them stay active, in line with the concept of ‘use it or lose it’ (Delello and McWhorter 2017). Penelope enjoyed crosswords and Sudoku on her handheld tablet, and she was convinced that learning to use a computer had helped engage her brain, as she explains in the interview quote below.

> I used the computer, so it did help get my brain into gear a bit! (Quote from interview with Penelope – 9 October 2014)

Zara had high hopes of learning to use the handheld tablet, having no prior experience with information and communication technology (aside from a telephone). She found the possibilities exciting and often remarked, ‘Isn’t this exciting?’ or ‘Isn’t this amazing?’ Zara frequently expressed her gratitude for my teaching, as shown in my journal quote below:

> Zara often has moments of excitement about the possibilities of the tablet. She is very grateful for the work that I am doing and asked how long I have been around. She was relieved to hear it was about one year, so she has plenty of time to perfect her emailing. (Quote from my journal – 24 September 2014)

Jackie’s involvement in the study set her on a journey of discovery, where she learned to use a handheld tablet despite having no prior experience. Below is a quote from her interview explaining how delighted she was:

> Jackie: I use mine [handheld tablet], and I use it a lot. I use it a lot for emails, umm, especially for work. I’m so delighted that I’ve actually got a proper little email address. There’s still a lot I don’t understand. I go into Dropbox, but I don’t know how I’ve gotten in and out again. And I don’t know how to put things into a Dropbox and umm … I’m learning, I’m learning, and I mean, to be honest, I’m the generation that is still learning because umm, you know my age and older, we were never brought up with them. We didn’t do them at school; we weren’t allowed calculators in exams and things. Yes, I’m not savvy in that sort of aspect. I’m very creative with things, but technology is beyond me. In fact, my husband tells me to leave the room because I stand next to him, and the computer goes wrong. (Quote from interview with Jackie – 15 October 2015)

On a personal note, I am a lifelong learner who constantly utilises technology to enhance my knowledge and skills. Therefore, this theme resonates with me.

7.4.2 Non-technology learning

Some participants saw learning as a lifelong pursuit. Chris was a lifelong student, consistently seeking to maintain and enhance various skills, including his English, Maths, and balance. Below is a quote from his interview where he shares his ambitions:

> I'm trying to improve my writing and I'm trying to improve my printing. And, and one thing I've got to chase up on is figures. I haven't been doing much with those lately, so I've got to make sure I don't lose them. … I'm trying to teach myself to get better balance, but as I say, how do you balance when the body's so tilted [due to an injury in the war]? (Quote from interview with Chris – 1 August 2015)

Penelope was another participant who believed in the importance of self-improvement through knowledge and education. Throughout her life, she had completed numerous courses. I could relate to this theme, as I share the same ambition for self-improvement.

7.5 To give

The fifth action of the New Economics Foundation's Five Ways to Wellbeing Framework is 'to give'. Offering our time to others or our community through volunteering or small gestures, such as thanking people, can boost wellbeing. The New Economics Foundation describes 'giving' as:

> To do something nice for a friend or a stranger. Thank someone. Smile. Volunteer your time. Join a community group. Look out, as well as in seeing yourself, and your happiness, linked to the broader community can be incredibly rewarding and will create connections with the people around you (Aked et al. 2008: 10).

One could argue that all participants fell under this theme due to their time spent participating in the study. However, three out of six participants – Penelope, Chris, and Emma – stand out as having contributed throughout their lives. They were all involved in helping others or contributing to their community. Evidence suggests that volunteering time may improve mental health, life satisfaction, healthy behaviours, and social interaction, ultimately leading to higher levels of wellbeing, as reported by others (Morrow-Howell et al. 2003; Casiday et al. 2008; Jenkinson et al. 2013).

The theme of 'giving' is split into two sub-themes: the eternal giver and having nothing to give.

7.5.1 Eternal giver

Contributing to people, communities, and society is generally a lifelong trait that persists into old age, in line with continuity theory (Bengtson et al. 2005; Bowling 2007). Evidence suggests that older adults can remain active, influential members of their communities, contributing through volunteering and sharing their wisdom. By engaging in helping behaviours, they enrich their lives and those of others by strengthening community bonds. Generativity, a key concept in Erikson's (1963) psychosocial stage theory, relates to the desire and capacity to support the development and wellbeing of future generations. It involves a commitment to nurture and guide the next generation, promoting societal growth and creating a deep sense of purpose (Lester et al. 2012).

When Penelope and her husband worked in the education sector, they dedicated a significant portion of their time to caring for and teaching children and adolescents. Some of these roles were in remand homes. Several of Penelope's students have stayed in contact with her because she left a lasting impression on their lives. Emma was another participant who made a significant contribution to her local community. She was actively engaged in her church and played the organ during services. Chris was a giver, from setting up community swimming initiatives to establishing a neighbourhood watch and helping those in need. Chris aimed to contribute and support future generations, in line with Generativity (Erikson 1963). Not only did he create a lasting legacy by supporting causes and making a difference, but he also instilled values and built relationships that would last. Below is a quote from my journal, where I viewed my role as paying it forward:

> Chris is desperate to learn and willing to help me with my research. He has been helping people his whole life; he is a very giving person. This is like a 'pay forward' for me in giving my time or 'payback' for him in receiving someone else's time for all the good he has done throughout his life. (Quote from my journal – 3 September 2015)

This theme resonates with me because I enjoy contributing to my community. I have taken part in various community projects in Cornwall, UK, and South Africa.

7.5.2 Nothing to give

7.5.2.1 Technology has nothing to give

Zara, Hazel, and Emma left the study because the handheld devices offered them nothing of value. Hazel felt overwhelmed and stressed at the thought of using the handheld tablets, a sentiment observed by others (Nimrod 2017).

From a broader perspective, all the participants questioned whether the innovation of information and communication technology had been beneficial for society. Other researchers report that an overreliance on technology can decrease social contact and harm society (Hill et al. 2015; Vaportzis et al. 2017a). Zara viewed technology as a detrimental invention for younger generations because it has taken over their lives, as noted by other researchers (Yuan et al. 2016; Juul et al. 2019). She believed that it was harming society and was concerned. Zara and I would debate this; her feelings stemmed from sadness and anger regarding the cultural failings associated with reliance on technology, a shift in people's values, and a deficient education system. Others studies express concern for society (Hill et al. 2015; Osiceanu 2015; Yuan et al. 2016; Vaportzis et al. 2017a; Juul et al. 2019).

Penelope held similar but less outspoken views on integrating technology into people's lives. She believed the internet offered a fantastic service, allowing her to stay in touch with her grandchildren on Facebook by sharing stories and photographs. However, she felt that although people have access to more services, which encourages consumerism, they have become greedy and stressed. It saddened Penelope that families were spending less quality time together. As a result, Penelope was uncertain whether the invention and progress of technology had truly benefited humanity. Her feelings are reflected in a quote from her interview below:

> You don't get around the table for Sunday dinners, like we all used to go to Grandma's. Grandma's on a Sunday and sit round … I was only talking about this the other day, sitting round the piano and having a singsong and … I don't think we're any happier. I'm sure people are no happier today … More stresses, more, umm, greedy, if greedy is the right word … Much more, umm, what's the word I want ... sort of commercialised, we want all these things and they all come at a price, don't they? ... I think it's 50-50. It's lovely to keep in touch with your family. You go on Facebook, and your grandchildren or great-grandchildren have put things on there, pictures, and what you can do – what they've been doing- and they keep in touch. It has drawbacks because they said today how many shops are closed because of internet shopping. Umm, you get too much news, too many adverts, and too much invasion. It amazes me in what we consider very poor countries, yet you see these, umm … The local people don't look like they've got a rag to their back, and they've often got a mobile phone! (Quote from interview with Penelope – 9 October 2014)

John, Hazel, Emma, and Chris shared similar mindsets and were concerned that technology offered little to society. Nevertheless, all participants agreed there were some benefits to the handheld tablets, although some felt these benefits did not apply to them.

7.5.2.2 Nothing to give the study – non-technology related

Although participants had voluntarily signed up, they all questioned their worth in contributing to the study. Penelope rarely experienced these feelings, but they surfaced when I asked if I could record an interview. This is reflected in the journal quote below:

> I plan to see Penelope later this week for an interview. She is happy to do it but wonders what she will add. I told her I would only ask a few questions and that she must not worry. She is concerned that she has nothing helpful to add to the study. (Quote from my journal – 6 October 2014)

Evidence suggests that older adults often feel inadequate about their contributions to research studies, influenced by various mental health and societal factors (Ward and Gahagan 2011). Ageism significantly shapes their self-perception of value, leading many to doubt their capacity to offer meaningful input.

7.6 Summary

This chapter outlined the themes identified during data analysis and presented them using the New Economic Foundations' Five Ways to Wellbeing Framework as a structure: to connect, be active, take notice, keep learning, and to give. The data presented in this chapter is summarised below:

To connect – This theme covered connections to family, other residents, care home staff, the researcher, and the community, including those made through technology and face-to-face interactions. Three participants mainly used email via their tablets. Other applications used included Facebook, used by Penelope, and Skype, which Chris accessed on his laptop. Chris was eager to engage with others and enjoyed seeing facial expressions during Skype calls. Additionally, he was keen to use email to stay in touch with members of his former neighbourhood. For Zara, using email posed challenges, as older adults often struggle with online communication etiquette. She used email to connect with friends, family, and her community. Several residents communicated with care home staff through email and Facebook. Throughout the care home, the handheld tablet became a topic of conversation and served as a connector for five out of six participants, as well as some staff members. Chris was enthusiastic about connecting. This desire led him to make several friends during his walks to the local park. Conversely, some residents did not appreciate Chris's attempts at conversation; they found them boastful and irritating. Overall, most participants preferred to distance themselves from residents experiencing mental decline due to dementia.

Towards the end, I became desperate to disconnect from the residents and extricate myself from the care home environment, as I felt drained. Reflectivity revealed my wish to connect with my older family members, which may have influenced the research approach and fostered a grandparent–grandchild dynamic with specific participants. All participants, regardless of whether they used the handheld tablet, enjoyed spending time with me; I shared common interests with three out of six participants.

Be active – This theme covered both services and the natural environment. Penelope moved from reading library books selected by her daughter-in-law to choosing eBooks independently. She also used various applications for entertainment, such as Sudoku and crosswords. John similarly used technology to access societal services, spending most of his day listening to music and watching YouTube. He preferred his laptop for its larger screen, but as his illness progressed, he increasingly used a handheld tablet. Zara used the handheld tablet to access information, which kept her mentally stimulated. During the 24 months I spent at the care home, I used a range of applications with participants and residents during craft sessions, including Google Earth, BBC, and Wikipedia, among others. All participants had a television in their bedrooms; some had SKY subscriptions and watched content on demand. Chris often expressed boredom in the care home and thought he could have benefited from being more active. Half of the participants used the handheld tablets to connect to societal services.

Due to the multifaceted nature of wellbeing, the theme of the natural environment, which is not related to technology, was included. This theme emerged as a common factor among participants who engaged long-term and contributes to the ‘Formula of the Perfect Person’ outlined below. Zara, Chris, and Penelope enjoyed spending time outdoors, and this trait persisted as they grew older.

Take notice – this theme covered savouring the present and reminiscing. It is particularly important for people with limited mobility, as they have fewer opportunities to engage in physical activities. Chris enjoyed watching the world go by while sitting in the park. He liked looking at the flowers and then observing the chaos of children playing in the park after school. Literature reports that reminiscing is therapeutic for older individuals, and it was included as a strategy in the GPG. I reminisced with all the participants, but more often with Chris and John, who enjoyed talking about the past. Literature indicates that self-awareness develops through self-reflection. Self-reflection and reflexivity are integral to autoethnographic reflection.

To learn – This theme covered both technology-enabled learning and non-technology-related learning. One might argue that all participants adhered to this theme by engaging in the study and using a handheld tablet, regardless of the duration of their involvement. However, two participants stood out as lifelong learners; they continued to use the handheld tablets and passed away while still enrolled in the study. Both Penelope and Zara believed that learning to use the handheld tablet had kept their minds active. Many participants expressed gratitude for my teaching, including those who dropped out. Additionally, Jackie learnt to use a handheld tablet during the study, despite having little prior experience with technology. Some participants saw learning as a lifelong pursuit, driven by the desire to acquire new skills and practise existing ones.

To give – This theme covered being an eternal giver and having nothing to offer. The literature suggests that volunteering may have a positive impact on wellbeing. Although all participants could be seen as giving their time to take part in this study, three participants stood out for consistently contributing to their communities throughout their lives. Chris was involved in various community projects and wanted to contribute to future generations, a concept known as Generativity (Erikson 1963). Penelope and Emma contributed to their communities by caring for and educating children, respectively, and by participating in the local church, where Emma played the organ for services. Interestingly, none of the participants believed they had anything valuable to add to the study, which aligns with the literature. Finally, all participants expressed concerns about the adverse effects that information and communication technology had on society, particularly regarding reduced social contact and changing values.

Based on the data presented in this chapter, the handheld tablet can be viewed as a ‘digital lifebelt’, keeping participants who were able and willing to engage effectively afloat and connected. Therefore, I conclude that the device had a positive effect on the wellbeing of some participants, particularly in linking them to others and to societal services. However, it is important to note that two participants experienced stress from using the device. Technostress has also been reported by others in the field (Tarafdar et al. 2007; Ayyagari et al. 2011; Neves et al. 2023; Clayton et al. 2024).

Based on the evidence presented above and employing the Five Ways to Wellbeing framework, I would like to outline the characteristics of participants who engaged with the handheld tablets over the long term. These characteristics are compiled into a list called the ‘Formula of the Perfect Person’. It is essential to note that this is not a persona, a concept from user-centred design. According to Morris and Mueller (2016: 262), personas are ‘fictional characters; they are composites of many real individuals’, and can ‘help identify the right users to serve as product testers by modelling user characteristics’. The ‘Formula of the Perfect Person’ simply identifies the common traits of those who engaged with the handheld tablets. As evidenced, the individual needs of this age group are complex, and future work could consider this list as a framework or persona.

The perfect person has the desire to:

1. Connect with family and friends
2. Engage with their community
3. Seek out high-level communication
4. Maintain mental health by exercising their brain
5. Maintain physical ability through exercising
6. Remain inquisitive
7. Spend time outdoors
8. Learn a new skill or be a lifelong learner who believes in self-improvement
9. Remain independent

This ‘Formula of the perfect person’ is a contribution to knowledge.

7.7 Conclusion

This chapter builds on the previous chapters that detailed the application of the person-centred approach in Chapter Five and the case series in Chapter Six. It presented themes using the Five Ways to Wellbeing as a framework: to connect, be active, take notice, to learn, and to give. It suggested that the handheld tablet could be considered a ‘digital lifebelt’ helping some participants stay afloat and connected. As a result, the device may have had a positive impact on some participants’ wellbeing, particularly in linking them to other people and societal services. Finally, the ‘Formula of the Perfect Person’ was introduced. This formula identified the traits of those who engaged with the devices long-term and contributes to the existing knowledge. The next chapter will integrate the literature and results and conclude the thesis.

CHAPTER EIGHT: DISCUSSION AND CONCLUSION

This is the final chapter of the thesis, which presents the discussion and conclusion of the study. The original aim was to explore the impact of handheld tablets on the wellbeing of residents in a care home, specifically regarding connection and social connectedness, with the core research question: How does a handheld tablet intervention impact the wellbeing of older people living in a care home? However, as the fieldwork evolved, so, necessarily, did the research design and research questions.

Specifically, the problematisation of the introduction of handheld tablet intervention became a focus due to the challenging nature of the environment. As a researcher on the broader project eServices on Demand for Residential Care Homes (eSDRCH) prior to commencing my PhD research, I observed technological solutions being introduced in a top-down manner, with an emphasis on technology, as explained in the preamble. I realised that the wider project was missing the person from the equation. Consequently, this PhD study was undertaken using a bottom-up approach focusing on the person, and the technology being used as a tool. Using a person-centred approach, supported by literature, I introduced handheld tablets to a group of older people in a care home to establish long-term engagement with the technology.

As the research progressed and encountered complex environmental challenges, the study shifted from a mixed-methods approach to a predominantly qualitative approach, utilising ethnographic methods. Consequently, the focus shifted to problematising the introduction of the handheld tablets, leading to the development of a second research question: How can a person-centred approach be used to introduce handheld tablets to older people living in a care home? Finally, during the analysis and write-up, an autoethnographic element was identified, leading to the formulation of a third research question: How does undertaking person-centred research in a care home affect the researcher?

This study had the following objectives:

1. To assess the impact of using handheld tablets on the wellbeing of the participants
2. To introduce the handheld tablets using a person-centred approach, and record and report on using this approach
3. To report on the impact of the research using a retrospective autoethnographic lens.

This final chapter aims to summarise the study, evaluate how effectively the various elements of the thesis were addressed, and draw conclusions. To achieve this, I start with a summary of each chapter. I then discuss the challenges, limitations, and recommendations for future research. Finally, I consider the evidence presented in this thesis and provide an overall conclusion.

8.1 Summary

8.1.1 Chapter One: Introduction

This chapter builds on the preamble and offers the reader more detail about the key areas that are crucial to the research, such as ageing, wellbeing, care homes, and technology. Technology has become a fundamental part of our everyday lives, shaping our social networks, lifestyles, and identities (Peine et al. 2021). We are at a juncture where two factors are changing society: firstly, a demographic shift linked to an ageing population, and secondly, rapid technological advancements. Since 1950, the proportion of older people worldwide has steadily increased, from 8% in 1950 to 11% in 2009, and is expected to reach 22% by 2050 (United Nations Department of Economic and Social Affairs 2010). In the United Kingdom, the population over 65 is estimated to be over 7.5 million by 2040 (Centre for Ageing Better 2025). According to Peine et al. (2021), technology is now seen as a tool for delivering many services remotely, including healthcare, and as a means of communication for individuals and society. This chapter presents the aims, objectives, and contributions to knowledge before outlining the structure of the thesis. All these aspects will be discussed in more detail below.

8.1.2 Chapter Two: Literature review

The literature review presented the relevant literature on the four foundational pillars of the study: ageing, wellbeing, care home, and digital technology. This chapter built a case to support undertaking the research and provided a detailed picture of the main areas of influence. It explained the concept of ageing and looked through the lens of critical gerontology, identifying key concepts such as ageism, power dynamics, and inequalities. In addition, some of the prominent sociological and psychological theories were introduced. Sociological theories highlight societal interactions and structures affecting ageing individuals, while psychological theories emphasise individual cognitive and emotional processes. Understanding both perspectives is crucial in formulating comprehensive approaches to address the multifaceted experience of ageing.

Next, wellbeing was introduced, outlining the theory of wellbeing and various wellbeing frameworks. Using a critical theory perspective, I emphasised factors such as structural inequality and societal determinants of health. I presented the New Economics Foundation (NEF) model as a foundation for this study. It demonstrated how external conditions, like income and social networks, interact with personal resources, such as health and resilience, to influence how individuals function and the emotions they experience. When people experience positive emotions and function well, they are considered to be flourishing. The NEF developed a set of actions called the Five Ways to Wellbeing: connecting with others, being active, noticing, continuing to learn, and giving. These actions served as a framework for the themes in Chapter Seven.

Following the discussion of wellbeing, I considered the idea of connection, an essential part of the wellbeing puzzle. Humans require social connection and companionship; a lack of connection leaves a person feeling disconnected, which may negatively affect wellbeing. According to Liddle et al. (2021), evidence-based approaches that promote wellbeing recommend supporting connections to valued people, social groups, places, and communities. Therefore, focusing on social connectedness rather than isolation can help develop activities to strengthen these bonds. Waycott et al. (2019) suggest that older people's experiences of social connectedness can be characterised by three interrelated dimensions: personal relationships, community connections, and societal engagement. These dimensions were used to assess participants' needs around connection and to create a list of their 'gold stars', as explained in the cases in Chapter Six. Two additional areas are covered in this section: social capital and the theoretical framework behind the connection between individuals, community, and society, explained by two pioneer theorists, Durkheim and Nisbet.

Care homes represent the next foundational pillar, where the concept was introduced. Galvin and Todres (2011, 2013, 2018) presented the Dwelling Mobility Lattice, which identified simple actions to enrich the lives of people with limited mental and physical abilities. According to various studies, those moving into a care home can become disconnected from their communities, friends, or family, ultimately experiencing social disconnection, feelings of isolation, social exclusion, or loneliness. The critical theory of care homes examines the structural, social, and political dimensions of the environment, focussing on issues of power, inequality, and social justice. This was particularly significant during the COVID-19 pandemic, which highlighted systemic issues within care homes and their impact on residents' quality of life. Lastly, I explained that care approaches had shifted from biomedical models to more humanistic approaches centred on the resident and fostering living and thriving. One such approach listed was a person-centred care model, which is used as a theoretical framework for this study and is detailed thoroughly in Chapter Three.

The final theme in this chapter is technology, which began by recognising the growing body of literature on using digital tools to improve connection and reduce isolation among older people. The handheld tablet was identified as the preferred technology for the intervention, with the reasons explained in detail. According to Wright et al. (2023), the COVID-19 pandemic in 2020 transformed global communication. There was a rapid increase in digitalisation, with older people's use of information and communication technology (ICT) rising significantly. The literature indicates that these changes were driven by the need to sustain communication, seek information, and access services such as shopping and healthcare, thereby enhancing wellbeing. The findings from the pandemic (post-2020) further support the PhD goal (2014-2016) of using ICT to improve wellbeing.

A critical discussion followed, where Peine and Neven (2021) suggested that current technology development is characterised by a 'Latourian divide', with engineers and designers on one side and social scientists on the other, resulting in a fragmented team. This was accompanied by some critiques of ICTs, such as technostress, the potential to reduce face-to-face interaction, negative impacts on mental health, digital exclusion, and ageism. I concluded that technology is not a magic pill! Following this, the theories of technology acceptance and adoption are described in detail to demonstrate the field's breadth. This includes the Theory of Reasoned Action, the Technology Acceptance Model, the Diffusion of Innovation Theory, the Unified Theory of Acceptance and Use of Technology, and the Senior Technology Acceptance and Adoption Model. Here, I concluded that the ‘person’ was overlooked in the technology literature, which mainly focused on the technology.

Finally, the emerging literature across the combined areas of ageing, wellbeing, connection, and technology is presented. I discussed the rapidly growing body of research on older people using digital technology to enhance wellbeing, specifically by improving connection and reducing isolation. While this intersection is not particularly unique, a gap in the literature emerged when the wellbeing aspect was combined with personalisation. Personalisation of a handheld tablet intervention could involve tailored training to meet an individual’s needs or adapting the hardware and software accordingly. I outlined several studies advocating for personalisation, such as one-on-one training and flexible, self-paced programmes to promote adoption. Most of these studies were published after the fieldwork was completed, supporting the rationale for this PhD research. To conclude, there are no studies identified that used both ethnographic and autoethnographic methods over a 24-month period to examine the wellbeing impact of using a handheld tablet intervention on residents of a care home.

8.1.3 Chapter Three: Theoretical framework

The emerging literature discussed in Chapter Two emphasised placing the ‘person’ at the centre of technological interventions, focusing on personalisation of training and customisation of devices. Consequently, I explored the health and social care literature, given that this study is conducted in a care home. I found numerous sources on care models that emphasised the importance of individualised care and tailoring services within social care. In this chapter, I introduced humanistic psychology, which led to person-centredness, and the person-centred care models. Critically, I identified a gap in the literature regarding the urgent need for person-centred research related to technology. I then discussed the Person-centred Nursing Framework and the Person-centred Practice Framework. Finally, I outlined the Gerontechnological Principle Guidelines (GPG).

Humanistic psychology represented an approach that viewed the individual as dynamic and self-determining with the capacity for growth and change. Its foundational ideas challenged deterministic models by emphasising the importance of personal meaning, holistic experience, and the creative potential inherent in every person, thereby offering an enduring framework for understanding human behaviour and promoting psychological wellbeing. Humanistic psychology underpins person-centredness and person-centred care models. The movement has its intellectual roots in the work of theorists such as Abraham Maslow and Carl Rogers, who aimed to develop a framework that emphasised human dignity, freedom, and the pursuit of meaning in life (Maslow 1943; Rogers 1980).

Person-centredness and a person-centred approach value a person’s morals, history, personality, right to dignity, respect, and autonomy (Manley 2017; Sundler et al. 2020) and are underpinned by philosophies that enable people to feel valued as human beings (Galvin and Todres 2013). According to the literature, the person-centred approach has become a central philosophy in caring for the elderly. Care models have changed dramatically over the last 35 years, shifting towards person-centred care models, as explained in this chapter. Roger’s perspective radically shifted the balance of power between practitioners and patients, where the practitioner was no longer seen as the ‘expert’ and the patient’s capacity to ‘know themselves’ was regarded as essential (Thorne 2007).

In this chapter, I reported that the social care field called for research to be conducted in a person-centred manner. Interestingly, this call mirrored the technology literature, which recommended personalisation as explained in Chapter Two. Most importantly, the elements of person-centred care have extended beyond the health and social care sector into the technology industry, according to Jacobs et al. (2017a). After the fieldwork was completed, many papers and textbooks were published that used a person-centred lens for technological interventions, reinforcing my argument for employing a person-centred approach in this study.

I introduced the Person-centred Nursing Framework and the Person-centred Practice Framework (McCormack 2003a; McCormack and McCance, 2006; McCormack and McCance 2010b; McCance et al. 2021). These frameworks were discussed in detail. Dewing et al. (2021), as well as Titchen et al. (2017), recommended that researchers develop their own person-centred frameworks to suit their specific needs. Consequently, I adapted the Person-centred Nursing Framework to create the Gerontechnological Principle Guidelines (GPG), a framework better suited for implementing an information and communication intervention in a care home setting. The GPG comprised six themes centred around the key principle of connection. These themes are divided into two groups: one focused on the researcher, and the other on the person-centred process. Within the researcher group, I identified three themes: communication, self-awareness, and capability. Within the person-centred process group, I identified another three themes: knowing the person, empowerment, and authentic engagement. All these themes were explained in detail and linked back to the literature. This chapter laid the foundation for Chapter Five, where the reader is guided through a journey of conducting fieldwork using the person-centred lens, with connections made to the GPG.

8.1.4 Chapter Four: Research design

This chapter outlined the research design and methodological approaches. It began with an overview of the fieldwork, providing an in-depth description of the research setting, participants, and intervention. It explained that the intervention comprised three elements: hardware, software, and training. Following this, it included a detailed section on conducting research in care homes, referencing a wide range of literature on topics such as recruitment challenges, the need for flexibility, witnessing distressing situations, emotional labour, reflexivity, and reminiscence. Many of these recommendations were incorporated into the Gerontechnological Principle Guidelines in Chapter Three and subsequently applied in Chapter Five. The chapter then addressed ethical considerations, including informed and ongoing consent, negotiating access, participant selection, and privacy.

The mixed-methods approach was introduced, and the reasons for selecting this approach, as well as the subsequent changes made to data collection methods, were justified. Initially, this study aimed to understand the impact of using handheld tablets on the wellbeing of older people living in a care home over a 12-month period and to answer the following question: How does a handheld tablet intervention impact the wellbeing of older people living in a care home? However, over time, the focus shifted to problematising the introduction of the handheld tablets, and the research design changed to predominantly employ ethnographic methods over an extended period of 24 months. With these adjustments, the study aimed to answer a second question: How can a person-centred approach be used to introduce handheld tablets to older people living in a care home? Finally, during analysis and write-up, an autoethnographic element was identified, leading to the formulation of a third research question: How does undertaking person-centred research in a care home affect the researcher? This change in direction and the addition of new research questions are referred to as progressive focusing (Stake 1995; Simons 2009).

This chapter provided detailed information on case study methodology, ethnography, and autoethnography. It highlighted key authors in these areas, such as Stakes (1995) and Ellis (2004), and discussed the advantages and disadvantages of each approach. The section then described various data collection methods: interviews, questionnaires, photographs, informal discussions, observations, and a journal. The data analysis process was explained in detail, accompanied by photographs of my concept maps and themes. The study employed thematic analysis by Braun and Clarke (2006), which has been recommended in other research evaluating the use of handheld tablets with older adults (Jones et al. 2013; Peek et al. 2016; Vaportzis et al. 2017b; Neves et al. 2018; Vaportzis et al. 2018; Baecker et al. 2014; Neves et al. 2023; van Leeuwen et al. 2023).

Next, I explained that the data was coded and analysed in two directions. Firstly, it was grouped into cases through a within-case analysis (Creswell 1998), utilising thematic maps and concept maps. This resulted in six cases, and my autoethnographic account, which was presented in Chapter Six. Secondly, a cross-case analysis was conducted to identify themes. These themes were presented in Chapter Seven, using the NEF's Five Ways to Wellbeing actions as a structure. Finally, the presentation of the data was explained, and a conclusion was offered.

8.2 Summary and discussion of the main findings

The study findings were organised into three distinct chapters, as outlined below:

8.2.1 Chapter Five: Application of the person-centred approach

In Chapter Five, I presented the application of the person-centred approach, which painted a vivid picture of the fieldwork and narrated how the research was conducted. It detailed various actions and decisions and how they linked back to the GPG and literature discussed in Chapter Two. As explained in Chapter Three, I sought advice from several researchers in the field and undertook two activities before introducing the intervention: planning and entering the care home. From the very beginning, I maintained a journal to document my thoughts and observations. By the end of the research, the journal's word count exceeded 65,000.

In this chapter, I detailed the preparatory work undertaken and how the research was set up using the person-centred lens of the GPG. The care home was introduced, followed by the technological intervention, where I explained how I immersed myself in the environment by examining residents' ways of life. Deep immersion is a method of ethnography and is recommended by many other researchers (Creswell 1998; Atkinson et al. 2001; Goodley et al. 2004; Evans 2008; Wolcott 2009; Desmarais 2016; Backhouse and Daly 2021). Here, I described how I worked alongside Jackie, the activities coordinator and 'gatekeeper'. It was during this time that I participated in journal club, book club, and outings to garden centres, among other activities, with the aim of getting to know residents and building rapport. To enhance the narrative, I included photographs of these activities.

Next, I detailed my work with the participants. Using the Five Ways to Wellbeing actions (Aked et al. 2008; Thompson and Marks 2008; Aked and Thompson 2011; Michaelson et al. 2012), and the social connectedness dimensions (Waycott et al. 2019), we looked at various elements of the participants life: how their lives had changed as they aged, moved into the care home, explored their interests, reflected on what they missed, and shared their future aspirations. The handheld tablet was introduced as a tool to connect with their past and future ambitions, which we called their 'gold stars'. These conversations began before the paperwork was completed and continued throughout the study. The participant and I established a focus and outlined a plan to achieve it. This section provided a detailed account of how I worked with the participants, ensuring that my actions were always aligned with the GPG.

The challenges faced during the fieldwork were explained. These included participants' sudden dislike of the technology, their aversion to the structured data collection methods, or their passing away. As a result, the environment influenced the direction of the research, leading to the use of less formal ethnographic data collection methods. Consequently, fewer interviews were recorded, and fewer questionnaires were completed. Finally, the fieldwork conclusion and post-fieldwork summary were presented, both of which noted several deaths.

In conclusion, a comprehensive list of recommendations and lessons was provided. Some were supported by current literature, while others came from the fieldwork. Below, I will highlight some of these lessons. Care home residents have little control over their lives, so restoring a sense of agency is highly recommended. I aided this by allowing them to choose covers for the handheld tablet. The screen’s sensitivity posed a challenge for some, especially women with long nails. Interestingly, all the women involved in the study had long nails; therefore, they often used a stylus when using the tablet. The keyboard’s ease of use was unexpected and not documented in the literature. Ease of use is a key factor in several technology acceptance models, including the Technology Acceptance Model (TAM), the Senior Acceptance and Adoption Model (SAAM), and the Unified Theory of Technology Acceptance and Use (UTAUT), as discussed in Chapter Two. All the women were confident in using the keyboard, even those who had never used a computer or handheld tablet before, thanks to their training on a typewriter. This was a unique finding. Before undertaking the fieldwork, I had not encountered any literature addressing the challenges related to the etiquette of communicating via email and video calling. Zara and Chris struggled with this. When updating the literature review, I found literature identifying this challenge. Vercruyssen et al. (2023) identified this as struggles with socio-emotional literacy, a form of digital literacy. Based on my experience introducing a technological intervention to this age group, I recommend setting up the devices away from the participants and ensuring all updates are made before the devices are given to them. Installing and updating applications causes stress and confusion for participants, as reported by Clayton et al. (2024). No time should be wasted resolving issues that arise: the longer participants wait, the lower their chances of continuing to use the device. In summary, it is important to recognise that even basic tasks, such as switching the device on, are not trivial for this age group due to mental and physical challenges. More lessons and recommendations can be found in Chapter Five.

This chapter presents a nuanced view of how a person-centred technological intervention functions within a care home environment, achieved through deep immersion and ethnographic methods. It directly addresses the second research question: How can a person-centred approach be used to introduce handheld tablets to older people living in a care home? It also considers related objectives: To introduce the handheld tablets using a person-centred approach and to record and report on the use of this approach. Ultimately, the chapter emphasises that building a personal connection with the participant was essential for the success of the intervention.

8.2.2 Chapter Six: Case series

After entering the care home and listening to the residents' stories, I became convinced that presenting a story for each participant was essential to showcase their uniqueness and give them a voice. From the outset, I decided that each resident would be presented as their own case within a case series. Consequently, I gathered details about their life histories, experiences of transitioning into the care home, and information regarding the introduction and use of the handheld tablets.

Initially, I had no intention of including myself as a case. However, during the analysis and write-up, an autoethnographic angle was identified due to the large volume of personal reflections in my journal. Autoethnography is a methodology that utilises personal experiences to describe cultural texts, beliefs, experiences, and practices, where researchers engage in rigorous self-reflection, known as reflexivity (Ellis and Bochner 2000; Humphreys 2016; Adams et al. 2017; Spry 2018; Parson and Chappell 2020). It intersects ethnography and autobiography (Parsons and Chappell 2020). According to Adams et al. (2017), it concentrates on the researcher's personal experience, with the story being told through their perspective. The methodology of autoethnography was detailed in Chapter Four.

This chapter presented seven cases, one for each participant: Chris, Penelope, Zara, John, Hazel, Emma, and my autoethnographic account. Using a combination of quotes from my journal entries, observations, questionnaires, and interviews, each case shared a unique story. These cases highlighted the unique differences among the individuals and demonstrated why a one-size-fits-all solution is ineffective for this age group. It reinforces the recommendations from other researchers who suggest personalising training and customising devices for this demographic, as discussed in Chapter Two.

The impact on wellbeing from the handheld tablet intervention was mixed due to the highly individual responses from participants. In my view, for those who could physically engage with the tablets and embraced them, the devices had a profoundly positive effect on their lives. Penelope exemplified this, whereby the device restored a sense of control and choice in her life. Initially, the tablet connected her to society by providing access to services and entertainment. Over time, she also used it to communicate with others through applications such as Facebook. She repeatedly expressed her joy and said she would not stop using the handheld tablet; the device was her lifeline. Chris and John continued to use their laptops and occasionally used the tablets. John relied heavily on technology and started using the handheld tablet later in his illness when he became weak and was hospitalised. John needed to connect to society and spent hours on YouTube and browsing the internet. Technology was a lifeline he could not do without. Chris's fluctuating Parkinson's made using the tablet challenging, but we used it when we were together. Chris needed social interaction due to a strong desire to connect with others. After some modifications to his laptop, including an external keyboard and mouse and the removal of a PIN, he was able to use it independently. Together, we used Skype to call his family. He enjoyed seeing their facial expressions, which, according to Balki et al. (2023) and Hietanen et al. (2020), partly compensates for the lack of physical presence. Technology gave him a means to connect to his community, which he yearned for.

Zara had a mixed response to technology: she praised the tablets for their cleverness but harboured deep-seated anger towards the negative impact technology was having on society. Over the five months she used the handheld tablet, it had a positive impact on her life in multiple areas. She gained a new communication channel through email, which cost her nothing, and she could seek out any information she desired. However, on many occasions, I observed her frustration with the device and confusion from forgetting the steps. Still, she continued using it due to the benefits it offered and encouragement from her family. But suddenly she stopped using it. At this point, from my perspective, Zara experienced several emotions – embarrassment, shame, stress, and overwhelm – that led her to stop. Some of these feelings were caused by mistakenly sending an email to her entire contact list, while others resulted from the overwhelming pressure of responding to the large number of emails she received while unwell. Hazel and Emma both ceased using their handheld tablets after a very short period. Hazel experienced technostress from her engagement with the tablet, which was discussed in Chapter Two. These case studies provide data towards answering the first research question: How does a handheld tablet intervention impact the wellbeing of older people living in a care home? Chapter Seven offers the other part of the data to answer this question.

Initially, I believed introducing handheld tablets to care home residents would be simple. Drawing on my diverse background in economics, research, and technological interventions, I planned the study and scheduled data collection according to a timeline. Everything seemed organised, but then I entered the care home, and the plan had to change. This is discussed in Chapter Five. Working with this age group proved more complicated than I had expected, despite extensive reading on undertaking research in care homes, as detailed in Chapter Four. I did not anticipate the amount of time needed to teach participants to use the devices. In addition, I was unprepared for the emotional rollercoaster I would experience. During the 450 hours I spent in the care home, I kept a journal to record my reflections. According to Hammersley and Atkinson (1995), writing a journal while conducting research facilitates an understanding and reconstruction of the environment. I experienced a mixture of sadness, guilt, helplessness, and joy, amongst others. I often reflected on my mortality and questioned the ageing process. I developed emotional bonds with participants and found it hard to detach myself from the environment due to feelings of guilt.

After losing several participants and a colleague, the care home transformed into a place I no longer recognised; I finally felt like a stranger. Many of my experiences and emotions mirror what several other researchers report when working with care home residents (Brown-Wilson 2007; Dickson-Swift et al. 2007). This autoethnographic account addresses the third research question: How does undertaking person-centred research in a care home affect the researcher? Additionally, it fulfils the objectives of the applied retrospective lens. This account is unique and contributes to knowledge.

8.2.3 Chapter Seven: Themes

Following a cross-case analysis, the themes were presented in accordance with the Five Ways to Wellbeing actions: to connect, be active, take notice, to learn, and to give (Aked et al. 2008; Michaelson et al. 2012), as explained in Chapter Two. In addition, the social connectedness element, supporting connection to valued people, social groups, places, and communities, was woven into the themes (Waycott et al. 2019).

This theme of 'to connect' examined relationships with family, other residents, care home staff, the researcher, and the community, including those formed through technology and face-to-face. Three participants mainly used email on tablets for communication. Other applications included Facebook, used by Penelope, and Skype, which Chris accessed on his laptop. Chris was eager to engage with others and enjoyed seeing facial expressions during Skype calls. This can be explained by Media Richness Theory, which suggests that video calling provides richer communication (Hill et al. 2015) due to the ability to make eye contact. Additionally, Chris wanted to use email to stay in touch with members of his former neighbourhood, highlighting his strong wish to remain connected to his former community. For Zara, using email was difficult, as some older adults often struggle with online etiquette (Polanco-Levicán and Salvo 2022). She constantly felt pressured to reply immediately to emails, which stressed her. Zara used email to connect with friends, family, and her community. She even used it to organise a lift to the coffee shop and church. Overall, the handheld tablet became a frequent topic of conversation and served as a connector for five of the six participants, as well as some staff members. Several residents communicated with care home staff via email and Facebook. As mentioned earlier, Chris was keen to connect with others, including residents, staff, friends, neighbours, and his old community. This motivated him to make several friends during his walks to the local park. Conversely, some participants preferred to keep their distance from residents with dementia, often choosing to stay in their rooms while at the care home. Regarding the family connection element, some relationships were supportive, while others were less so, resulting in residents losing agency over important aspects of their lives.

Towards the end of the fieldwork, I too felt the urge to disconnect from residents and extricate myself from the care home environment due to exhaustion. My reflexivity revealed my desire to connect with my older family members, which may have influenced the research approach and created a grandparent–grandchild dynamic with specific participants. All participants, regardless of whether they used the handheld tablet, enjoyed spending time talking with me. I shared common interests with three out of six participants.

The theme of ‘being active’ includes services and the natural environment. This theme aligns with Activity Theory, which emphasises the importance of staying engaged in activities to enhance the wellbeing of older individuals (Havinghurst 1961; Rowe and Kahn 1997). It includes the societal engagement aspect of social connectedness (Waycott et al. 2019). Penelope transitioned from reading library books, selected by her daughter-in-law, to choosing eBooks herself. This illustrates the Selective Optimisation and Compensation Theory (Baltes 1997), in which she compensated by moving from a heavy physical book to an eBook. Furthermore, the ability to choose her own books restored Penelope's sense of control. Some participants indicated that technology was a lifeline for them, as was the case for Penelope and John. Zara was an information gatherer who used a handheld tablet to collect data. A list of some examples is included in her case in Chapter Six. Jackie strongly believed that handheld tablets enabled residents to stay connected to the outside world. From a non-technology perspective, all participants had access to their own televisions, and four out of six participants engaged with activities offered by the care home. Chris reported feeling disengaged with life at the care home; despite his efforts to connect with others, he felt a sense of boredom.

The collective body of research provides strong evidence that interacting with the natural environment significantly benefits psychological wellbeing. The positive impacts on mood, cognitive function, and resilience during stress are well-documented across numerous studies, which firmly support the role of nature in improving overall mental health (Annerstedt and Währborg 2011; Keniger et al. 2013; Harvie 2014). Three participants enjoyed spending time outdoors while living at the care home. Although their outdoor activities were shorter and less physical due to mobility issues, it remained an activity they valued highly. This is explained by the Continuity Theory, which proposes that individuals tend to maintain the patterns they have developed throughout their lives (Bengtson et al. 2005). It also aligns with the Selective Optimisation and Compensation Theory, which suggests that behavioural adaptation occurs as people age, leading them to engage in activities that are less demanding (Baltes 1997).

The theme of ‘taking notice’ relates to being aware of the world around you, savouring the moment, and reminiscing. Savouring the moment is a concept rooted in positive psychology. Jans-

Beken et al. (2019) explain that it involves enhancing and prolonging positive experiences by consciously attending to and appreciating life's pleasurable moments. This theme is especially significant for individuals with limited mobility, as it often results in fewer opportunities for physical activity. It aligns with Activity Theory, which emphasises the importance of staying engaged in activities to boost wellbeing. Chris exemplified this; he would walk to the local park, enjoy the peace and quiet, appreciate the flowers and trees, and then watch the chaos of children playing after school. The consensus among researchers is that recalling the past can be therapeutic for older individuals (Stake 2006; Brown-Wilson et al. 2009; Dewing 2009; Froggatt et al. 2009). Reminiscence was included as a strategy in the GPG. For some participants, reminiscing was central to our discussions, especially when there was a shared interest. Chris and I talked about the war and swimming, while John and I discussed Africa. I also shared a common interest in baking with Penelope, although this was not something we discussed regularly. In reflection, I realise that engaging with participants at this level and consistently discussing their lives would have been therapeutic and likely positive for their wellbeing.

Using an autoethnographic lens brought significant amounts of self-reflection and self-awareness to the forefront, leading to the development of a third research question, and the inclusion of the autoethnographic account. The literature recommends self-reflection when conducting research in care homes (Finlay 2003; McCance and McCormack 2017; Brown and Tropea 2021).

The theme of 'keep learning' aligns with several theories already discussed in this thesis. The first is Activity Theory, which states that individuals who participate in social activities experience greater life satisfaction (Havighurst 1961; Lemon et al. 1972; Rowe and Kahn 1997; Menec 2003). The second is Selective Optimisation and Compensation Theory, as all participants adjusted their activities as they aged (Baltes 1997). The third is the Continuity Theory, which states that individuals tend to adhere to established patterns throughout their lives, particularly in terms of personality consistency (Bengtson et al. 2005; Bowling 2007). According to Delello and McWhorter (2017), participants who engaged in lifelong learning maintained this trait by striving to acquire new skills or sustain them in later years. This is true for Chris and Penelope, who enjoyed being lifelong learners. Zara and Penelope both believed that learning to use technology helped them remain active. Penelope enjoyed everything the tablet had to offer and did daily crosswords and Sudoku. Additionally, Jackie learnt how to use a handheld tablet. One could argue that all participants adhered to this theme by engaging in the study and using a handheld tablet, regardless of their level of involvement. This theme resonated with me, as I share the same aspiration of being a lifelong learner.

The final theme ‘to give’ encompasses being an eternal giver, and having nothing to give. Evidence suggests that volunteering can improve mental health, life satisfaction, healthy behaviours, and social interaction, ultimately leading to higher levels of wellbeing, as reported by others (Morrow-Howell et al. 2003; Casiday et al. 2008; Jenkinson et al. 2013). Once again, one could argue that all participants adhered to this theme by giving their time to participate in the study. However, it is likely that ‘to give’ can be explained by continuity theory, whereby individuals tend to adhere to established patterns throughout their lives, particularly regarding the consistency of personalities (Bengtson et al. 2005; Bowling 2007). This was true for Chris, who was involved in many community projects throughout his lifetime. He had the desire to help people and support future generations. This can be explained by Generativity, a central concept in Erikson’s (1963) Psychosocial Stage Theory, which refers to the desire and ability to contribute to the development and wellbeing of future generations. According to Lester et al. (2012), Generativity embodies the commitment to nurture and guide the next generation, facilitating societal growth and fostering a profound sense of purpose. Evidence suggests that older adults can be active, influential members of their communities, contributing through volunteering and sharing their wisdom. By engaging in helping behaviours, they enrich their own lives and the lives of others by fostering stronger community connections. Penelope and Emma also made significant contributions to their communities. This is a theme that resonates with me because of my involvement in several community projects in Africa and Cornwall, UK.

Conversely, some participants felt they had nothing of interest to contribute to the study. Evidence indicates that older adults often struggle with feelings of inadequacy regarding their contributions to research, influenced by various mental health and societal factors (Ward and Gahagan 2011). Ageism significantly influences older adults’ self-perceptions of value, leading many to doubt their ability to contribute meaningfully. Three participants who left the study felt that the handheld tablets offered them little value. Hazel reported feeling overwhelmed and stressed, and I can only deduce that Zara experienced similar emotions; however, she had enjoyed using it for five months. As previously detailed, technostress is well-documented in the literature (Nimrod 2017). Finally, all participants questioned whether the invention of information and communication technology had benefited society. Other researchers report that an overreliance on technology can reduce social contact and have a negative impact on society (Vaportzis et al. 2017a; Hill et al. 2015). Zara viewed technology as a harmful invention for younger generations, arguing that it has taken over their lives, as noted by other researchers (Yuan et al. 2016; Juul et al. 2019). She believed it was damaging to society and felt concerned. Nonetheless, all participants recognised some benefits for society.

The results are mixed, with half of the participants leaving the study and the other half passing away while enrolled. To summarise, for those participants who were able and willing to engage effectively with the handheld tablets, the devices could be regarded as a 'digital lifebelt' keeping participants afloat and connected. Therefore, I conclude that the device had a positive impact on the wellbeing of some participants, particularly in connecting them to others and to societal services. However, it should be noted that two participants experienced stress, overwhelm, embarrassment, shame, and frustration from using the device. Stress caused by technology use has been reported by others in the literature (Tarafdar et al. 2007; Ayyagari et al. 2011; Neves et al. 2023; Clayton et al. 2024). Nonetheless, one of these participants had successfully used the handheld tablet for five months. Additionally, I should note that three participants had laptops at the time of their enrolment in this study, and they continued to use their laptops alongside the handheld tablets. As stated, for many participants, their involvement centred around our conversations and time together rather than technology. From this, I deduce that all participants benefited from spending time with me during the period they engaged with the study, leading to improved levels of wellbeing. Building on the findings from Chapter Six, Chapter Seven has helped to answer the first research question: How does a handheld tablet intervention impact the wellbeing of older people living in a care home?

Based on the evidence presented above and employing the Five Ways to Wellbeing framework, this chapter described the characteristics of participants who engaged with the devices over the long term. The 'Formula of the Perfect Person' is essentially a paradox, serving as a counter-argument to the user-centred principles of a persona. According to Morris and Mueller (2016: 262), personas are described as 'fictional characters; they are composites of many real individuals' and can 'help identify the right users to serve as product testers by modelling user characteristics'. However, the 'Formula of the Perfect Person' is not a fictional character; rather, it is a list that identifies the common traits of those who engaged with the handheld tablets. As evidenced, the individual needs of this age group are complex, and future work could consider this list as a framework or persona.

8.3 Contribution to knowledge

This study makes five key contributions to knowledge. The first is the impact on wellbeing, where handheld tablets can enhance the wellbeing of some residents who are willing and able to engage, particularly by connecting them with others and enabling access to societal services. However, it is crucial that the training, hardware, and software are personalised to meet the individual's needs. Secondly, this study makes a methodological contribution by adapting a person-centred framework from the social care sector to create one better suited to introducing technological interventions into care home environments. This framework is called the Gerontechnological Principles Guidelines. Thirdly, it offers an ethnographic contribution through a detailed account of the person-centred introduction and adoption of technology in a care home. This account describes the practicalities of implementing technology in such settings, providing real-world context for the reader. Fourthly, an autoethnographic narrative details the challenges and effects encountered by the researcher during person-centred research in a care home, offering new insights into the researcher’s role and experiences. Finally, this study provides an interdisciplinary contribution by integrating insights from various fields, demonstrating how research on the introduction and adoption of technology in care homes can be enriched through cross-disciplinary knowledge.

Looking ahead, I present two outputs - Gerontechnological Principle Guidelines and the ‘Formula of the Perfect Person’ - for researchers introducing a technological intervention to care home residents aimed at enhancing wellbeing over an extended period.

8.3.1 Gerontechnological Principle Guidelines

The GPG were presented in Chapter Three and applied in Chapter Five. The GPG would be used when introducing a technological intervention to residents of a care home. It highlights connection as the key person-centred principle for the study, with two focus areas. The first is focused on the researcher, and the second is focused on the person-centred process.

For the researcher:

1. Communication
2. Self-awareness
3. Capability

For the person-centred process:

4. Self-awareness
5. Empowerment
6. Authentic engagement

8.3.2 Formula of the Perfect Person

This formula identifies the characteristics of participants who engaged with the devices over the long term. The perfect person has the desire to:

1. Connect with family and friends
2. Engage with their community
3. Seek out high-level communication
4. Maintain mental health by exercising their brain
5. Maintain physical ability through exercise
6. Remain inquisitive
7. Spend time outdoors
8. Learn a new skill or be a lifelong learner who believes in self-improvement
9. Remain independent

8.4 Challenges

As with any research, challenges are inevitable. This study was no different. Below, I have listed the most significant challenges:

1. The belief that handheld tablet technology should not be used in care homes due to concerns over reduced human contact presented a challenge. This concern has been acknowledged by others (Winstead et al. 2013; Yuan et al. 2016; House of Lords 2021). Initially, it was a hurdle for many care home staff and residents, but by the end of the fieldwork, most staff recognised the benefits. As highlighted in the literature, for the social care system to continue functioning, a significant paradigm shift is essential. However, the aim is not to replace human interaction with technology, but to enhance the system, as noted by others (Yuan et al. 2016; Jacobs et al. 2017a).
2. The technical skills of the care home residents and carers were below expectations, which posed a challenge as it required more substantial input from me. As access to technology continues to develop daily, future participants over the age of 75 in similar studies will likely have a different relationship with technology, having, in most cases, had lifelong exposure to various forms of communication technology. The participants in this study belonged to a specific historical period, so the results may not be directly applicable to other cohorts or historical contexts. This outcome is specific to one particular cohort, as supported by similar studies (George and Ferraro 2016).
3. The sustainability of technological interventions for older residents in care homes is questionable due to the considerable amount of long-term support required. Chen and Schulz (2016) support this view. A sustainable solution will be needed at the care home if it continues to provide residents with handheld tablets.
4. Changes in the research design initially presented a challenge, as formal data collection methods were replaced by less formal, ethnographic approaches. This flexibility fully aligns with the person-centred ethos of the study, and in the long run, this shift enhanced the research.
5. Withdrawing from the fieldwork proved difficult due to strong feelings of attachment and guilt. Others also reported experiencing these emotions in the field (Higgins 1998; Griffiths 2003; Dickson-Swift et al. 2007; Goodrum and Keys 2007).
6. The extended PhD period led to the publication of new literature during the fieldwork and write-up. The fieldwork was initially planned using data published before 2014. Since

then, numerous studies have been published, including new research on digital technology and loneliness during the COVID-19 pandemic. Recent literature has strengthened my argument for conducting this study.

8.5 Limitations

The small sample size was the primary limitation of the study. The cohort enrolled was smaller than I had hoped, due to the strict inclusion criteria. Only participants with full mental capacity could be included, limiting my options for the sample. However, it should be noted that, according to Baker and Edwards (2012), a small sample size should not be seen as a drawback when conducting in-depth research.

8.6 Recommendations for future research

I would like to offer some recommendations based on this nuanced study. The goal is for the findings to be further developed, allowing future research to make additional contributions to this field and thereby address the gap in current knowledge.

I recommend the following:

1. Continued exploration of person-centred technology implementation. Although this recommendation is based on the findings of this study, it is also supported by more recent literature, as detailed in Chapter Two, which advocates for technological interventions to be conducted using a person-centred approach (Barnard 2013; Chan et al. 2016; Chen and Schulz 2016; Friemel 2016; Vaportzis et al. 2017a; Padilla-Góngora et al. 2017; Birkland 2019; Jin et al. 2019; House of Lords 2021).
2. Further development of the Gerontechnological Principle Guidelines (GPG) is crucial. With further effort, these guidelines could develop into a comprehensive model for implementing technological interventions within a care home setting. Researchers in the fields of gerontechnology and technology could adopt this model. In the Postscript, I note that I applied the guidelines during a pilot programme.

3. Further development of the ‘Formula of the Perfect Person’ into a robust model could advance future research in participant recruitment and product design. Although this study promotes personalisation in three areas – hardware, software, or training – there remains an opportunity to develop a comprehensive model. In the Postscript, I state how I used these characteristics to recruit participants and gather data in a pilot programme during which we designed and tested a prototype.

8.7 Conclusion

With the increasing social pressure on older people to adopt digital technology, understanding the impact and acceptance of handheld tablets is essential to promote long-term use. The study aimed to explore how using handheld tablets affected the wellbeing of older residents in a care home during 2014–2016. However, due to the challenges of the environment, the process of introducing the tablets and engaging with participants became an additional focus, leading to the formation of a second research question. Using the Gerontechnology Principle Guidelines (GPG), a person-centred approach adapted from the social care field, this thesis guided the reader through the evolving fieldwork. The shifting nature of the research became central, with participants’ changing health and needs shaping its direction. During analysis and write-up, an autoethnographic element was identified, leading to the formulation of a third research question focussed on the researcher.

This study concluded that handheld tablets facilitated connections to people and societal services, and therefore the devices can enhance the wellbeing of those willing and able to engage. Thus, technology can be viewed as a ‘digital lifebelt’ that keeps people afloat by connecting them to the world, rather than a one-size-fits-all solution or a magic pill. Personalisation was essential to enable the adoption of handheld tablets for this age group, employing a person-centred approach that focused on the individual rather than the device.

This study enhances understanding of technology introduction and adoption among older people living in care homes. It may be beneficial to researchers and designers in the fields of technology, social care, and wellbeing.

This study contributes to knowledge in the following ways:

1. Wellbeing impact – by providing evidence of the effects of using a handheld tablet on the wellbeing of residents in a care home.
2. Methodological contribution – by adapting a person-centred framework from the social care sector to create a framework better suited to introducing technological interventions into care home environments. This framework is called the Gerontechnological Principle Guidelines (GPG).
3. Ethnographic contribution – by providing a detailed account of the person-centred introduction and adoption of technology in a care home.
4. Reflexive contribution – by providing an autoethnographic account of undertaking person-centred research in a care home environment.
5. Interdisciplinary contribution – by integrating insights from various fields, this study demonstrates how research can be enriched through cross-disciplinary knowledge.

POSTSCRIPT

The fieldwork and write-up took place over ten years (2014–2024) due to juggling responsibilities with my studies, work commitments, family life, and the COVID-19 pandemic. In 2021, I was involved in a project that developed a novel approach to collecting wellbeing data from older people living at home. Our team of three (a medical doctor, a technology developer, and myself) applied for and were awarded funding from the University of Exeter and Plymouth University to fund the design and testing of a prototype. Much of the knowledge I gained in this PhD study was used to inform this trial. I used the Five Ways to Wellbeing actions, the social connectedness dimensions and the ‘Formula of the Perfect Person’ to build a framework for gathering information and selecting participants. In addition, I used the Gerontechnological Principle Guidelines to undertake the fieldwork alongside my deep understanding of how older people use handheld tablet technology.

The knowledge I have gained in undertaking this PhD has been invaluable in the technology development field, and there is no doubt that this knowledge will continue to act as a springboard for future research and product development work.

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APPENDIX 1

Dwelling Mobility Lattice: Qualities of wellbeing compiled by Harvie from Galvin and Todres (2011 and 2013)

Wellbeing is a sense of ‘adventurous horizons’ is anything which offers a place of promise by experiencing something adventurous (metaphorically or literally) such as a person exploring a new place, reading a novel to open up the feeling of adventure or looking at the stars.
Wellbeing as a sense of ‘at-homeness’ is anything which offers a place of settling or stillness (metaphorically or literally) through a sense of at-homeness such as a person being surrounded by familiar objects or sitting in their favourite chair thereby creating a connection to the place.
Wellbeing as a sense of abiding expanse is anything which stretches between home and adventure (metaphorically or literally) in which the person feels a deep connection and the possibility of adventure, such as sitting at a window where they feel safe and settled, watching the birds migrate to warmer climates. This offers both the familiarity of being at home and interest in looking at birds.
Wellbeing as a sense of temporal mobility is anything which offers future orientation or future possibilities, in which a person is tuned into temporal possibilities (either as a sense or literally) such as looking forward to a gathering or celebration in the future.
Wellbeing as a sense of present-centredness is anything which offers absorption as a moment of welcome in which the person experiences a deep connection with what is happening in that moment, such as watching a sports game, listening to music, painting or listening to music.
Wellbeing as a sense of renewal is anything which combines the depth of the present and openness of the future by welcoming the future but being present and grounded. For example, a person climbing a mountain experiences both the ‘nowness’ and the ‘complete moment’ when they reach the top. Or a person could experience this while doing a ritual when undergoing major surgery.
Wellbeing as a sense of mysterious interpersonal attraction is anything which offers an invitation into the mystery of being, such as a respectful but caring interest in another person’s differences and uniqueness, or a carer surprising an animal lover who is unwell or withdrawing by bringing in a cat as a visitor.
Wellbeing as a sense of kinship and belonging occurs in ways that the person can find ‘at homeness’ with others. An example is feeling a sense of kinship and belonging by attending a club where there is a common interest or when a carer connects the person to others from a similar background.
Wellbeing as a sense of mutual complementarity occurs when the person experiences both mysterious interpersonal attraction alongside kinship and belonging, and they find an ‘attractive-unknown’ in those who are close and with whom they feel they belong. This could be the meeting point of something old and something new, such as a carer helping to reconnect the person in new ways to their cultural heritage by trying new food.
Wellbeing as a sense of excitement is anything which motivates a person to connect with their life’s desires by bringing a sense of excitement and possibility, such as a holiday or, for those living in a care home, celebrating important events or seasons.
Wellbeing as a sense of peacefulness occurs when there is acceptance of things, changes and circumstances, which can be challenging with emotions of sadness and concern. This could be an activity, such as a carer encouraging a person to keep ‘a book of abundances’ in which they note simple things to appreciate.
Wellbeing as a sense of multidimensional fullness is characterised by ‘giving oneself’ to an experience. It is the meeting point of the energetic quality of enthusiasm and the settled quality of being at home. For example, one can feel a mood of stillness while being ‘on the move’, metaphorically speaking, like simultaneously being at the centre and the periphery of a cyclone. This state cannot be directly facilitated, but the mood can be influenced by a carer (and they can prevent it from happening by not understanding the value of it), such as giving a person to space to slowly enjoy the simple things after experiencing chronic illness or trauma.
Wellbeing as identity mobility is a sense of ‘I can’ in which a person feels capable of and is able to achieve what they value. When something is achieved, the person will experience being ‘on the move’ (metaphorically or literally). For example, a person who has lost their confidence in engaging in past activities, maybe because of illness/disability, can be encouraged by a carer to set small relevant goals over time and experience a steady build-up of ‘I can’ achievements.

Wellbeing as identity dwelling is a sense of 'I am' in which a person's experience of identity feels linked to resources and contexts beyond them, without needing to be questioned. This is experienced as familiar continuity, peacefulness, a sense of effortless connectedness and a lack of dilemma; essentially being at home with oneself. Here, a carer could facilitate an experiential engagement in which the person recognises their cohesion through cultural, historical or geographical connections in such a way that they identify with place or group as 'my place' or 'my people'.
Wellbeing as a sense of layered continuity is experienced when a person's identity is achieved and felt as a sense of being 'able to'. It brings together 'I can' and 'I am' and the experience involves a 'breakthrough'. For example, a person receiving treatment, who is struggling to see herself as 'a patient' while trying to take full responsibility for her recovery, may spontaneous let go when realising that not much more can be done, and allow herself to be cared for.
Wellbeing as sense of vitality occurs when a person feels a bodily sense of refreshed possibilities (metaphorically or literally). It could be an energised bodily feeling in the physical body or imagination, such as a physiotherapist helping to maximise a dysfunctional limb so that movement is enhanced.
Wellbeing as a sense of comfort occurs when a person experiences a bodily sense of 'feeling at home' (metaphorically or literally) or comfortable in their body, feeling the natural rhythms with an unforced sense of familiarity. This could be something like a carer bringing comfort to a paralysed person and being sensitive to their need for a change of linen or position, and paying attention to light and noise levels.
Wellbeing as a sense of grounded vibrancy is when a person experiences variations of alertness and vitality intertwined with those of rest and comfort. The experience unifies vitality with comfort and a sense of freshness of renewal connects with deep continuity of belonging, such as a carer buying an ice cream for a person who no longer has the words for it but will recognise the feeling.

APPENDIX 2

Consent Form

The Impact of using Assisted Living Technology on Wellbeing of Residents in Care Homes

Thank you for considering taking part in this research. If you have any questions, please ask the researcher before you decide whether to take part. You will be given a copy of this Consent Form to keep and refer to at any time.

	Please initial if you agree
I confirm that I have read and understood the information sheet dated 31 January 2014 (version 3) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my care or legal rights being affected.	
I understand that this study may collect information about me through equipment, interviews, questionnaires, photographs and observations.	
I confirm that I give my permission to use the information I have provided, for the purpose(s) described below. I understand that I am not obliged to provide this information, that any information I do provide will be processed and managed in accordance with the Data Protection Act 1998, and that I can request to have a copy of this information sent to me. The process includes: • Publication of anonymised quotations from participants • Use of audio/visual devices and/or photographs • Storage of personal data on university computers • All data will be anonymously and confidentially transcribed and will not be identifiable at source • Only members of the research team will have access to participants' personal data during the study • Personal data will be kept for a minimum of 12 months but not longer than 48 months after which time it will be confidentially destroyed • The research may be registered on a public database • Participants will be notified of the results	

• The results will be published in peer reviewed scientific journals, internal reports, conference presentations, publication on website and other publications.	
I understand that if I withdraw from the study the data collected up to that point may be used as part of the research study, unless I request that it is destroyed.	
I agree to take part in the study.	

If you agree to help us in this way, please complete and sign the release below. Thank you very much. Your contribution is greatly appreciated.

Name of participant (please print) ________________________________

Signature_________________________________Date______________

Name of researcher (please print) ________________________________

Signature_________________________________Date______________

For more information contact

Researcher: Tammy Harvie

Address: Falmouth University, Penryn Campus, Penryn TR109EZ

Email: xx

Telephone: xx

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APPENDIX 3

Information Sheet

Title of Research Study: The Impact of using Assisted Living Technology on Wellbeing of Residents in Care Homes

We would like to invite you to take part in our research study. Before you decide, we would like you to understand why the research is being carried out and what it would involve for you. We will go through the information sheet with you and answer any questions you may have.

What is the purpose of the study?

This research study would like to test some equipment in this residential care home and see if it makes a difference to those who live and work here. We don’t know exactly what equipment we will used yet, but to give you an idea, we could use handheld devices for communication or entertainment, with reminisce programs and interactive games.

Why have I been invited?

A group of people who live, work and visit this residential care home are invited to participate in this research study. Having a range of people will help us better understand the impact of the new equipment. There could be up to 33 people taking part in this research study.

Do I have to take part?

It is up to you to decide to take part in this research study. We will describe the study and go through this information sheet with you. If you agree to take part, we will then ask you to sign a consent form. You are free to withdraw at any time, without giving a reason. Your participation in this study will not affect any services connected to this residential care home for example your care and support, your job or the care and support your family member receives.

What will happen to me if I take part? What will I have to do?

The study is run over a three-year period, which includes the planning, testing and closing down stages. You will be involved in the research study for about twelve months which starts from now.

If you decide to take part, we may ask you to meet the researcher about 6 times over the twelve-month period. Each meeting could involve either a confidential discussion or a questionnaire to better understand how you feel about the current services at the residential care home. These meetings can be arranged at a time that suits you, and will be kept as short as possible.

During these discussions, the researcher may ask if she can record the meeting through audio or visual means, (which will help her keep a record of the meeting without having to take notes) or to take photographs. If you prefer not to be recorded or to have you photograph taken please let her know. The researcher may also leave a few pieces of equipment at the residential care home to help collect your ideas and feedback on this research study.

If you live at this residential care home, we may ask if you would like any equipment installed in your bedroom; it's up to you to decide whether or not you would like any in your own bedroom.

If you work in this residential care home, we may ask you to use certain pieces of equipment.

If you visit this residential care home, we may simply ask you what you think of the new equipment available.

The researcher will be spending some time over the next twelve months in this residential care home to gain a better understanding of life in this environment and to see how the equipment is used. During this time she will be observing daily activities in this residential care home and will be available to discuss any part of the research study or answer any questions you may have.

What are the possible disadvantages and risks to taking part?

While the equipment is installed, we will try and keep disruption to a minimum. The researcher will be available during this time. We understand that you will give up their precious time to be involved in discussions and answer questionnaires; we hope this will be rewarding and of some benefit to you. If at any time you are unhappy with the research study and would prefer to not be involved, please let the manager or the researcher know.

What are the possible benefits of taking part?

We hope this study will improve your quality of life. If this study shows a positive result, there may be an opportunity to change the way residential care homes are set up and run in Cornwall and across England.

What happens when the research ends?

When the research study draws to a close, there may be an opportunity for this residential care home to keep some of the equipment we installed. The results of this research study will be made available for all to see, and the findings will be published in journals and on websites. We will celebrate the end of the study with an afternoon tea.

What will happen if I don't want to carry on with the research project or if my health/memory deteriorates during the study?

If you decide that you no longer want to be involved in this research study, please let us know. We will withdraw you immediately; you do not need to give us a reason. If you agreed to have equipment installed in your bedroom, we will arrange for it to be removed. If you would like to withdraw, you need to contact the researcher (her details are at the end of this document) or ask management to contact the researcher.

If your health or memory deteriorates during this study, you will automatically be withdrawn from the study.

After you have been withdrawn you will receive no further communication about this research study, and no further information will be collected from you. All information collected up to the point of withdraw will be kept and used as part of the study, unless you tell us otherwise. If you would prefer the information is destroyed, please let us know.

What if there is a problem?

If you have a problem, please contact the researcher. If you have a complaint, please contact the head of the Research and Innovation Office or the Director of Studies, both at Falmouth University. All the contact details are at the end of this information sheet.

Will my taking part in this research project be kept confidential?

Your participation in this research study cannot be kept confidential from others who live and work at your residential care home. However, all the information you give the researcher during discussions and in questionnaires will not be identifiable.

Everything you say or report is confidential unless you tell us something that indicates that you or someone is at risk or harm. We would discuss this with you before telling anyone else.

All information will be stored on secure University computers. This data will be kept for a maximum of 48 months before it is confidentially destroyed.

What will happen to the results of the research study?

This residential care home will be identified as the location of the research study but all information, data or quotes relating to you and others will be anonymously presented. The information published will not be identifiable.

Who is organising and funding the research?

This research study is being undertaken by a PhD student at Falmouth University and the University of the Arts London and is being funded by Falmouth University.

Who has reviewed the study?

This research project has been reviewed and given a favourable opinion by the University Ethics Committee.

Further information and contact details:

If you would like any further information, please contact the research assistant:

Tammy Harvie

Contact: xx

If you are unhappy about the research study or have a complaint, please contact:

xx (Head of Research and Innovation Office)

Contact: xx

xx (Director of Studies)

Contact: xxx

All of the above are located at: Academy of Innovation and Research, Falmouth University, Penryn Campus, Penryn, Cornwall TR109EZ

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APPENDIX 4

Harvie's Questionnaire

Questionnaire to be completed

For the questions below, I ask you to make a mark on a line. So, for instance:

How thirsty are you?

Not at all Very

|______________________v___________________________|

The mark close to "Very Much" indicates that you are quite thirsty indeed.

<u>Start:</u>

1. When you wake up, how much do you look forward to your day?

Not at all Very

|____|

2. How much do you enjoy life?

Not at all Very

|____|

3. How lucky do you feel compared to other people?

Not at all Very

|____|

4. How close do you feel to your family and friends?

Not at all Very

|____|

5. How often do your family or friends visit?

Not at all Very

|____|

6. How much do you enjoy it when they do visit?

Not at all Very

a. How much do you like to see other people?

Not at all Very

|____|

8. How independent do you feel?

Not at all Very

|____|

9. How well do you get on with other people?

Not at all Very

|____|

10. How safe do you feel at the care home?

Not at all Very

|____|

11. How much do you feel part of the care home?

Not at all Very

|____|

12. How friendly do find everyone at the care home?

Not at all Very

|____|

13. How much does your health allow you to take part in leisure activities?

Not at all Very

|____|

14. How much involvement do you have in the activities at the care home?

Not at all Very

|____|

Any comments you would like to share:

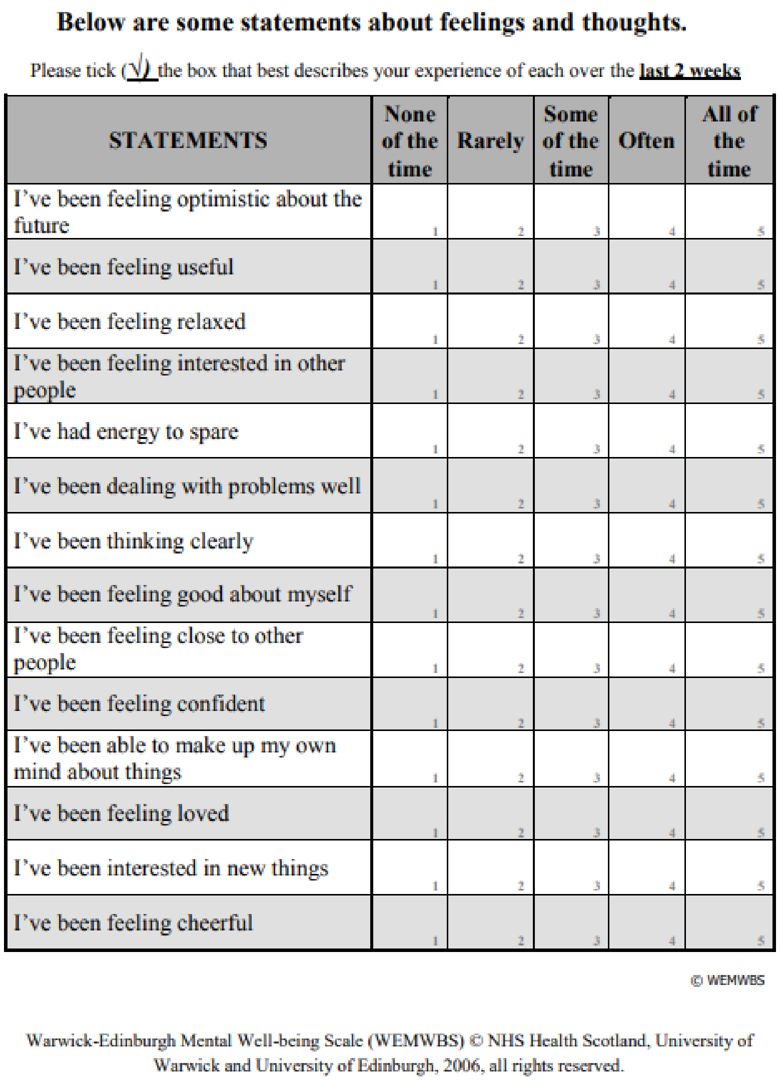
If you have any questions, please let me know.

Thank you for completing the questionnaire.

Originally in Arial size 16 for participants

APPENDIX 5

Warwick-Edinburgh Mental Wellbeing Scale



Below are some statements about feelings and thoughts.

Please tick (√) the box that best describes your experience of each over the **last 2 weeks**

STATEMENTS	**None of the time**	**Rarely**	**Some of the time**	**Often**	**All of the time**
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been feeling interested in other people	1	2	3	4	5
I've had energy to spare	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling good about myself	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been feeling confident	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5
I've been feeling loved	1	2	3	4	5
I've been interested in new things	1	2	3	4	5
I've been feeling cheerful	1	2	3	4	5

APPENDIX 6

Lubben Social Network Scale

Please complete the following

FAMILY:
Considering the people to whom you are related by birth, marriage, adoption, etc…

1. How many relatives do you see or hear from at least once a month?

0 = *none*
1 = *one*
2 = *two*
3 = *three or four*
4 = *five thru eight*
5 = *nine or more*

2. How often do you see or hear from the relative with whom you have the most contact?

0 = *less than monthly*
1 = *monthly*
2 = *few times a month*
3 = *weekly*
4 = *few times a week*
5 = *daily*

3. How many relatives do you feel at ease with that you can talk about private matters?

0 = *none*
1 = *one*
2 = *two*
3 = *three or four*
4 = *five through to eight*
5 = *nine or more*

4. How many relatives do you feel close to such that you could call on them for help?

0 = *none*
1 = *one*
2 = *two*
3 = *three or four*
4 = *five through to eight*
5 = *nine or more*

5. When one of your relatives has an important decision to make, how often do they talk to you about it?

0 = *never*
1 = *seldom*
2 = *sometimes*
3 = *often*
4 = *very often*
5 = *always*

6. How often is one of your relatives available for you to talk to when you have an important decision to make?

0 = *never*
1 = *seldom*
2 = *sometimes*
3 = *often*
4 = *very often*
5 = *always*

FRIENDSHIPS:
Considering all of your friends including those who live in your neighborhood ...

7. How many of your friends do you see or hear from at least once a month?

0 = *none*
1 = *one*
2 = *two*
3 = *three or four*
4 = *five through to eight*
5 = *nine or more*

8. How often do you see or hear from the friend with whom you have the most contact?

0 = *less than monthly*
1 = *monthly*
2 = *few times a month*
3 = *weekly*
4 = *few times a week*
5 = *daily*

9. How many friends do you feel at ease with that you can talk about private matters?

0 = *none*
1 = *one*
2 = *two*
3 = *three or four*
4 = *five through to eight*
5 = *nine or more*

10. How many friends do you feel close to such that you could call on them for help?

0 = *none*
1 = *one*
2 = *two*
3 = *three or four*
4 = *five through to eight*
5 = *nine or more*

11. When one of your friends has an important decision to make, how often do they talk to you about it?

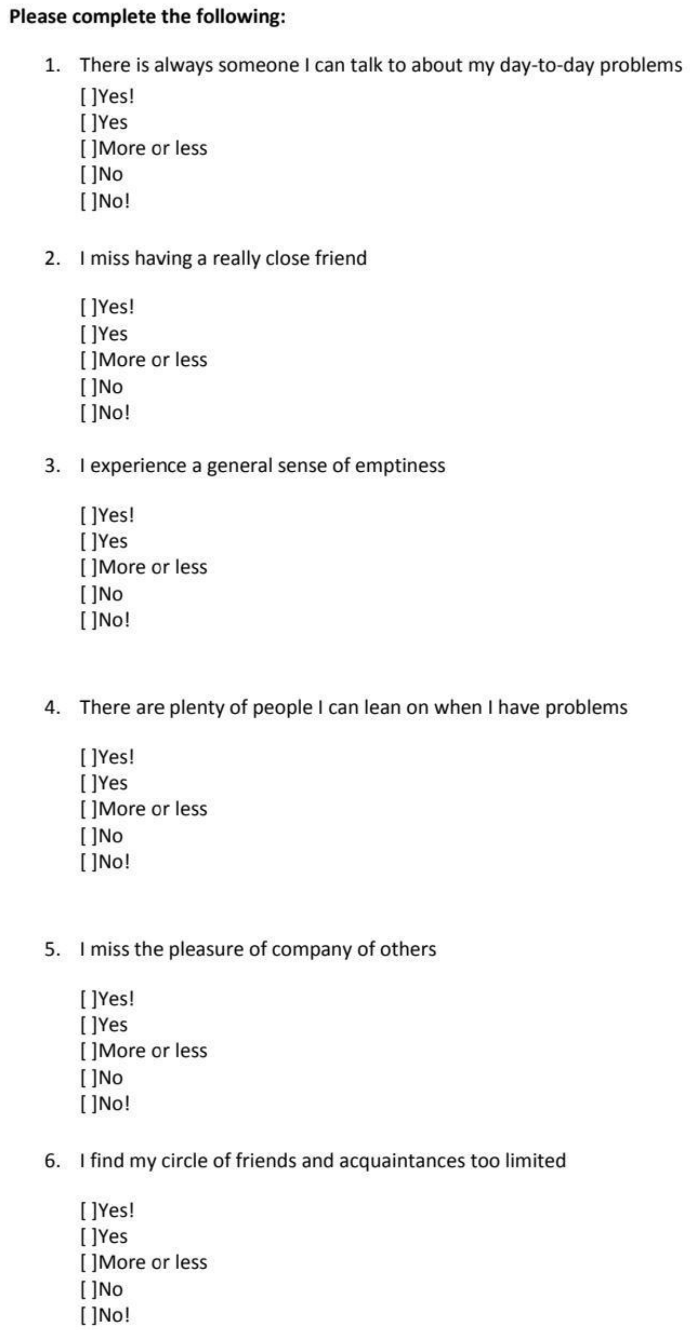
0 = *never*
1 = *seldom*
2 = *sometimes*
3 = *often*
4 = *very often*
5 = *always*

12. How often is one of your friends available for you to talk to when you have an important decision to make?

0 = *never*
1 = *seldom*
2 = *sometimes*
3 = *often*
4 = *very often*
5 = *always*

APPENDIX 7

De Jong Gierveld Loneliness Scale



Please complete the following:

1. There is always someone I can talk to about my day-to-day problems
    [ ]Yes!
    [ ]Yes
    [ ]More or less
    [ ]No
    [ ]No!

2. I miss having a really close friend
    [ ]Yes!
    [ ]Yes
    [ ]More or less
    [ ]No
    [ ]No!

3. I experience a general sense of emptiness
    [ ]Yes!
    [ ]Yes
    [ ]More or less
    [ ]No
    [ ]No!

4. There are plenty of people I can lean on when I have problems
    [ ]Yes!
    [ ]Yes
    [ ]More or less
    [ ]No
    [ ]No!

5. I miss the pleasure of company of others
    [ ]Yes!
    [ ]Yes
    [ ]More or less
    [ ]No
    [ ]No!

6. I find my circle of friends and acquaintances too limited
    [ ]Yes!
    [ ]Yes
    [ ]More or less
    [ ]No
    [ ]No!

7. There are many people I can trust completely

[ ]Yes!
[ ]Yes
[ ]More or less
[ ]No
[ ]No!

8. There are enough people I feel close to

[ ]Yes!
[ ]Yes
[ ]More or less
[ ]No
[ ]No!

9. I miss having people I feel close to

[ ]Yes!
[ ]Yes
[ ]More or less
[ ]No
[ ]No!

10. I often feel rejected

[ ]Yes!
[ ]Yes
[ ]More or less
[ ]No
[ ]No!

11. I can call on my friends whenever I need them

[ ]Yes!
[ ]Yes
[ ]More or less
[ ]No
[ ]No!

APPENDIX 8

Responses from Chris

1. When you wake up, how much do you look forward to your day?	71
2. How much do you enjoy your day?	69
3. How lucky do you feel compared to other people?	87
4. How close do you feel to your family and friends?	100
5. How often do your family and friends visit?	54
6. How much do you enjoy it when they do visit?	97
7. How much do you like to see other people?	95
8. How independent do you feel?	87
9. How well do you get on with other people?	71
10. How safe do you feel at the care home?	74
11. How much do you feel part of the care home?	73
12. How friendly do you find everyone at the care home?	86
13. How much does your health allow you to take part in leisure activities?	53
14. How much involvement do you have in the activities at the care home?	54

Harvie's Questionnaire created specifically for this study.

Chris's responses on 1 August 2015. Responses converted to a scale out of 100.

	None of the time	Rarely	Some of the time	Often	All of the time
1. I’ve been feeling optimistic about the future			X		
2. I’ve been feeling useful			X		
3. I’ve been feeling relaxed			X		
4. I’ve been feeling interested in other people		X			
5. I’ve had energy to spare			X		
6. I’ve been dealing with problems well				X	
7. I’ve been thinking clearly				X	
8. I’ve been feeling good about myself				X	
9. I’ve been feeling close to other people				X	
10. I’ve been feeling confident			X		
11. I’ve been able to make up my own mind about things				X	
12. I’ve been feeling loved				X	
13. I’ve been interested in new things			X		
14. I’ve been feeling cheerful					X

Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS)

Chris’s responses on 1 August 2015.

	Yes!	Yes	More or less	No	No!
1. There is always someone I can talk to about my day-to-day problems	X				
2. I miss having a really close friend		X			
3. I experience a general sense of emptiness			X		
4. There are plenty of people I can lean on when I have problems			X		
5. I miss the pleasure of the company of others		X			
6. I find my circle of friends and acquaintances too limited			X		
7. There are many people I can trust completely			X		
8. There are enough people I feel close to			X		
9. I miss having people around me				X	
10. I often feel rejected				X	
11. I can call on my friends whenever I need them			X		

De Jong Gierveld Scale

Chris's responses on 1 August 2015.

	0	1	2	3	4	5
1. How many relatives do you see or hear from at least once a month?						X
2. How often do you see or hear from the relative with whom you have the most contact?					X	
3. How many relatives do you feel at ease with that you can talk about private matters?				X		
4. How many relatives do you feel close to such that you could call on them for help?					X	
5. When one of your relatives has an important decision to make, how often do they talk to you about it?						X
6. How often is one of your relatives available for you to talk to when you have an important decision to make?						X
7. How many of your friends do you see or hear from at least once a month?					X	
8. How often do you see or hear from the friend with whom you have the most contact?				X		
9. How many friends do you feel at ease with that you can talk about private matters?					X	
10. How many friends do you feel close to such that you could call on them for help?			X			
11. When one of your friends has an important decision to make, how oftem do they talk to you about it?			X			
12. How often is one of your friends available for you to talk to when you have an important decision to make?						X

Lubben Social Network Scale (LSNS)

Chris's responses on 1 August 2015. This is a short LSNS where the scale 0-2 indicates less social engagement and 3-5 indicates more social engagement.

APPENDIX 9

Responses from Penelope

	First	Second	Change	Change
1. When you wake up, how much do you look forward to your day?	13	41	+28	⬆
2. How much do you enjoy your day?	51	41	-10	⬇
3. How lucky do you feel compared to other people?	49	68	+19	⬆
4. How close do you feel to your family and friends?	95	86	-9	⬇
5. How often do your family and friends visit?	93	96	+3	⬆
6. How much do you enjoy it when they do visit?	93	94	-2	⬇
7. How much do you like to see other people?	87	94	+7	⬆
8. How independent do you feel?	30	56	+26	⬆
9. How well do you get on with other people?	82	88	6	⬆
10. How safe do you feel at the care home?	94	83	-11	⬇
11. How much do you feel part of the care home?	93	90	-3	⬇
12. How friendly do you find everyone at the care home?	95	92	-3	⬇
13. How much does your health allow you to take part in leisure activities?	38	61	+22	⬆
14. How much involvement do you have in the activities at the care home?	58	60	+2	⬆

Harvie's Questionnaire created specifically for this study

Penelope's combined responses for the first measurement (9 October 2014) and second measurement (24 April 2015). Responses converted to a scale out of 100, with the change between the two measurements denoted in the third column. The arrows in the fourth column indicate the direction of change with a red arrow pointing upwards denoting an improvement and a green arrow pointing downwards denoting a deterioration.

	None of the time	Rarely	Some of the time	Often	All of the time
1. I've been feeling optimistic about the future			X →	X	
2. I've been feeling useful		X →	X		
3. I've been feeling relaxed			X →	X	
4. I've been feeling interested in other people				XX	
5. I've had energy to spare	X →	X			
6. I've been dealing with problems well			X →	X	
7. I've been thinking clearly			X →	X	
8. I've been feeling good about myself		X →	X		
9. I've been feeling close to other people			X	← X	
10. I've been feeling confident		X →	X		
11. I've been able to make up my own mind about things				XX	
12. I've been feeling loved				XX	
13. I've been interested in new things				XX	
14. I've been feeling cheerful			X →	X	

Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS)

Penelope's combined responses for first measurement (9 October 2014) and second measurement (24 April 2015). The difference between the first and second measurements are denoted by the change in the direction of the arrows. A double 'XX' indicates that there was no change.

APPENDIX 10

Responses from Zara

1. When you wake up, how much do you look forward to your day?	94
2. How much do you enjoy your day?	96
3. How lucky do you feel compared to other people?	93
4. How close do you feel to your family and friends?	95
5. How often do your family and friends visit?	96
6. How much do you enjoy it when they do visit?	94
7. How much do you like to see other people?	51
8. How independent do you feel?	47
9. How well do you get on with other people?	49
10. How safe do you feel at the care home?	100
11. How much do you feel part of the care home?	100
12. How friendly do you find everyone at the care home?	100
13. How much does your health allow you to take part in leisure activities?	47
14. How much involvement do you have in the activities at the care home?	48

Harvie’s Questionnaire created specifically for this study

Zara’s responses on 21 October 2014. Responses converted to a scale out of 100.

	None of the time	Rarely	Some of the time	Often	All of the time
1. I’ve been feeling optimistic about the future				X	
2. I’ve been feeling useful		X			
3. I’ve been feeling relaxed					X
4. I’ve been feeling interested in other people			X		
5. I’ve had energy to spare		X			
6. I’ve been dealing with problems well			X		
7. I’ve been thinking clearly					X
8. I’ve been feeling good about myself		X			
9. I’ve been feeling close to other people		X			
10. I’ve been feeling confident					X
11. I’ve been able to make up my own mind about things					X
12. I’ve been feeling loved					X
13. I’ve been interested in new things			X		
14. I’ve been feeling cheerful					X

Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS)

Zara’s responses on 21 October 2014.

APPENDIX 11

Responses from John

1. When you wake up, how much do you look forward to your day?	70
2. How much do you enjoy your day?	14
3. How lucky do you feel compared to other people?	19
4. How close do you feel to your family and friends?	85
5. How often do your family and friends visit?	59
6. How much do you enjoy it when they do visit?	73
7. How much do you like to see other people?	10
8. How independent do you feel?	76
9. How well do you get on with other people?	12
10. How safe do you feel at the care home?	84
11. How much do you feel part of the care home?	11
12. How friendly do you find everyone at the care home?	10
13. How much does your health allow you to take part in leisure activities?	10
14. How much involvement do you have in the activities at the care home?	7

Harvie's Questionnaire created specifically for this study

John's responses on 14 October 2014. Responses converted to a scale out of 100.

	None of the time	Rarely	Some of the time	Often	All of the time
1. I've been feeling optimistic about the future			X		
2. I've been feeling useful	X				
3. I've been feeling relaxed		X			
4. I've been feeling interested in other people	X				
5. I've had energy to spare	X				
6. I've been dealing with problems well			X		
7. I've been thinking clearly			X		
8. I've been feeling good about myself		X			
9. I've been feeling close to other people	X				
10. I've been feeling confident			X		
11. I've been able to make up my own mind about things					X
12. I've been feeling loved	NA				
13. I've been interested in new things				X	
14. I've been feeling cheerful		X			

Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS)

John's responses on 14 October 2014