



How do older adults perceive and engage in active music-making in the digital age?

Exploring lived experiences of instrumental learning and playing after retirement

in South Korea

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Declaration

I, Jeehye Hwang, confirm that the work presented in my thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Abstract

The growing older population has brought an evolving perspective to understanding ageing, and studies have discussed the benefits of musical participation in later life. However, compared to singing and listening to music, there is scarce literature concerning playing instruments in older adulthood. Furthermore, the development of digital technologies and the prevalent use of digital devices and software has brought new ways of experiencing music. Still, the ways in which digital music technology use is coordinated and understood among older adults remain to be explored. This thesis aims to grasp the subtleties and subjective experiences of learning and playing musical instruments and using digital music technology among retired older adults in the current phase of digitalisation.

Ten retired older adults who were learning musical instruments at their local community centres in South Korea were recruited to participate in in-depth semi-structured interviews with artefact elicitations. The interview data were analysed using a novel methodological approach in music research, but a widely used qualitative approach, Interpretive Phenomenological Analysis (IPA), to illuminate the complexities of their musical experiences and the implications for life after retirement.

Key findings reveal the significance of the contextual and personal factors for learning and playing musical instruments after retirement. Participants' motivations intersected with a life transition while encountering various changes due to retiring from full-time work and entering older adulthood. Learning and playing musical instruments at all levels were expected to bring the social and emotional benefits of music participation during the life transition and to pursue one of their lifelong goals and interests related to musical skill development. These various motivations were drawn together as a need for meaningful music participation after retirement.

During music practices, digital music technologies were understood as online video-sharing platforms such as YouTube or music-related smartphone applications. A diverse knowledge of digital technology and a self-identification as frequent users of digital technology contributed to recognising their value as readily accessible tools for autonomous music learning. While some concerns were expressed about the potential overflow of information related to music resources and the ability to use them effectively, it was observed that social influence played a significant role in adopting digital music technologies.

Along with the musical motivation and the use of digital music technologies, playing musical instruments after retirement was perceived as a meaningful form of community participation. Group learning and playing facilitated positive social interactions among group members and personal development, allowing for critical reflections on their musical experiences. While acknowledging both challenges and benefits associated with learning musical instruments after retirement, individual needs and learning styles within group contexts were negotiated and reflected with a strong desire to continue pursuing group learning and playing as personal fulfilment.

This thesis highlights learning and playing musical instruments as meaningful participation after retirement, providing personal development and social connectedness. Moreover, the findings of this thesis challenge ageist stereotypes and narratives related to older adults, arguing that digital music technologies can enrich instrumental music learning and playing among older adults.

Impact Statement

This research sheds light on the subjective experience of learning and playing musical instruments and the use of digital technology among retired older adults in the current phase of digitalisation. The study's key findings reveal the significance of musical motivation, social context, and personal meaning for music participation after retirement.

The impact of this research can be seen in various ways, both inside and outside academia. Within academia, the study contributes to the field of music research by offering a novel methodological approach, an interpretative phenomenological analysis with artefact elicitations which provide insight into the complexities of instrumental music practices in later life. The findings highlight the importance of heterogeneity of musical experiences, which has the potential to influence future scholarship, research methods, and curriculum development in music education for older adults.

Beyond academia, this research has practical implications for social enterprise, public health, and public policy design. The study highlights the benefits of playing and learning musical instruments in later life, such as positive social interactions, personal development, and emotional well-being. These findings can inform the development of public policies and programmes that promote music participation to enhance older adults' quality of life and well-being.

Furthermore, the study highlights the significance of digital technology in music practices for older adults. The findings suggest that a varied knowledge of digital technology and the identification of frequent users contributed to recognising the value of digital music technology as readily accessible tools for autonomous music learning. These insights can inform the design of digital music technologies and applications that cater to the needs and preferences of older adults.

The potential impact of this research is not limited to a specific geographical region or community. It can benefit individuals, communities, and organisations locally, regionally, nationally, or internationally. The findings of this study can have an immediate impact on the design and implementation of policies and programmes that promote music participation among older adults, as well as on the development of digital music technologies that cater to their needs. The impact can also occur incrementally, over many years or decades, as the findings of this research are disseminated, implemented, and built upon by researchers, policymakers, and practitioners.

In summary, this research on older adults' playing and learning musical instruments after retirement in the digital age has the potential to bring about positive changes both within and outside academia. The findings can inform the development of policies and programmes promoting music participation and well-being among older adults and designing digital music technologies that cater to their needs and preferences. This thesis contributes to a better understanding of the role of music in later life and its potential impact on individuals, communities, and society as a whole.

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1. Introduction

1.1 Starting Points

Music has long been considered an essential part of human life, providing one of everyday life's most enjoyable and satisfying experiences (Mas-Herrero et al., 2013). Motivated by a desire to explore the impacts of musical participation through evidence-based research, considerable literature has shown the social, emotional, and cognitive benefits associated with engaging in music (Hallam & Himonides, 2022; MacDonald et al., 2012). For instance, MacDonald et al. (2012) provide an extensive list of potential benefits associated with music activities, including their ubiquity, emotional engagement, capacity to provide a distraction, physicality, ambiguity, social nature, communicative aspects, and influence on behaviour and identity formation.

With the increasing accessibility of music throughout individuals' lives, music has remained a constant and influential medium throughout human history (Blacking, 1995). Particularly, musical instruments are essential for people to engage with and express themselves through music. While individuals receive formal instrument instruction before or during school through music education programmes, adults often encounter limited opportunities for continued engagement after leaving formal music education. Then, adults may take up or return to instruments later in life.

This introductory chapter aims to elucidate the rationale behind focusing on the experiences of older adults learning and playing musical instruments in the digital age, where the integration of digital technologies has impacted various aspects of human life. Before delving deeper into the subject matter, it is important to outline a series of points that served as initial motivations for this thesis.

Point 1: The world's population is ageing¹ rapidly. The changes in life expectancy, which means people live longer on average, have made the population older on average (Harper, 2019). This demographic shift has led to changes in societal and cultural attitudes toward stereotypical notions of ageing, which were previously associated with decline and frailty (Harper, 2019; Levy & Macdonald, 2016). In response to these changes, the importance of participation in various types of activities in later life have been highlighted in literature providing a plethora of evidence that participation in social, educational and leisure activities is beneficial for health and psychological well-being in older adulthood (Adams et al., 2010; Chang et al., 2014; Narushima et al., 2016).

Point 2: As scholars continue to explore the benefits of musical participation, research into the potential for music has expanded beyond children and young adults to include adults and older adults, thereby evincing a growing acceptance of the power of music for a wider population (Hallam & Himonides, 2022; MacDonald et al., 2012; Shepperd & Broughton, 2020; Welch et al., 2020). Therefore, it is necessary to continue examining how and why individuals across a broader population engage with music to advance the knowledge base in the related field.

Point 3: The development of digital technology in the latter part of the 20th century has expanded people's everyday lives in a complex and dynamic manner. As such, people have become increasingly dependent upon various digital technologies. Access to and experience of music in people's lives has undergone a revolutionary transformation through various tools and devices such as radio, TV, tablets, computers, and phones. Nonetheless, stereotypes around ageing often lead to negative perceptions of older adults' use of information and interactive technologies (Vines et al., 2015). However, in recent years, with the increased prevalence of Internet use and smartphone ownership among older adults worldwide, researchers have suggested more active ways to explore the use of technology

¹ In this thesis, the term 'ageing' will be predominantly used, adhering to British English spelling conventions. However, it should be noted that certain direct quotations or references from literature based on American English may employ the alternative spelling 'aging'. Also, any other direct quotations or references from American English sources will be preserved in their original spelling.

in older adulthood (Neves & Mead, 2021; Smith, 2014; Sixsmith et al., 2022; Wike, 2022). Moreover, the outbreak of the COVID-19 pandemic has brought about studies on the positives and opportunities of technology for older adults (Sixsmith et al., 2022).

Point 4: On a personal level, I, researcher², have been 'wearing different hats' within the field of music, from being an instrumentalist and music educator to a music therapist. Music, for me, has never been merely an acoustic form of art but also a powerful medium for expressing emotions, understanding cultures, sharing similarities, and celebrating my identity. In my professional journey, working with younger individuals and adults, using music interventions to reach therapeutic goals (e.g., building rapport, developing social skills, and expressing emotions) as well as to achieve educational objectives (e.g., developing musical instrument skills and gaining musical knowledge) has sparked my interest in exploring and discussing the multifaceted nature of music and its impacts on individuals' lives. Over time, in tandem with my professional experiences, I became increasingly interested in investigating the lived experiences of older adults actively participating in music.

Taking all these points together, this thesis is motivated by the convergence of the growing older population, the importance of music participation in later life and the evolution and prevalence of digital technology. This convergence has led to the overarching research question: **How do older adults perceive and engage in learning and playing musical instruments after retirement in the digital age?** The following sections delve deeper into the rationale for this thesis by discussing the rapid growth of the older population worldwide (1.2.1), the under-researched area of music learning and participation among older adults (1.2.2), the increasing influence of digital technologies in music practice (1.2.3). These rationales inform the development of constituent research questions for this thesis (1.3) and

² 'The researcher' from now on refers to the author of this thesis who also conducted the experiential part of this thesis.

introduce the country where the research participants are located, South Korea (1.4). Finally, the structure of the thesis is outlined (1.5).

1.2 Ageing, Music, and Digital Technology

1.2.1 Older Adulthood

Defining 'old age' or 'ageing' is complex and diverse. Gerontologists have identified four different processes that contribute to the experience of ageing. These processes include chronological ageing, which is determined by a person's birth year; biological ageing, which refers to physical changes that occur as organ systems become less efficient; psychological ageing, which involves mental processes and adaptation to the ageing process; and social ageing, which is influenced by changing roles and relationships in society (Hooyman & Kiyak, 2011). While the most commonly used conceptualisation of ageing is to define it based on the year of birth, there is yet to be a universally recognised numerical standard of older age. However, individuals who are 60 years old or older are generally considered to be part of the older population (United Nations, 2017).

Moreover, it can be argued that defining older adults requires unique social, historical and regional considerations (Orimo et al., 2006). While the definition of old age is considerably associated with reaching the statutory retirement age or becoming eligible for pension benefits in most developed countries, other socially constructed meanings of age, such as the loss of roles and responsibilities that come with physical decline, are considered a significant factor in defining old age in many developing countries (Gorman, 1999; Kowal & Dowd, 2001; Rozanova, 2010). However, retirement alone cannot be used to define old age because many people who have reached the legal retirement age in their countries continue to work (Galkutė & Herrera, 2020). Therefore, the meaning of old age can be inconsistent, with no universal agreement on age boundaries for older adults (Rozanova, 2010).

Throughout this thesis, the terms 'older adults' or 'retirees' refer specifically to people aged 60 or older who entered a period of life characterised by changes in their occupational situations, such as retirement, semi-retirement, and self-employment. Moreover, the formal retirement age in South Korea, where this thesis' fieldwork was conducted, is 60, similar to many countries (Kim et al., 2021).

Globally, the rapid growth of the older population has emerged as a critical issue. It is reported that people aged 60 or over increased from 382 million in 1980 to over 962 million in 2017 and is projected to double by 2050 (United Nations, 2017). The issue is not specific to any country or continent, and almost every country is experiencing the accelerated growth of older populations. The term 'super-aged society' refers to countries where more than twenty per cent of the population is 65 or older. According to Moody's Credit Rating Agency, Japan, Germany, and Italy already meet this definition and other countries, including South Korea, France, Switzerland, the UK, and the US, are expected to become 'super-aged societies' by 2030 (Kim & Hwang, 2022; Koohsari et al., 2018; O'Connor, 2014).

Over the past few decades, the ageing population has also led scholars to examine the social and economic impacts of the ageing population. These impacts include the shortage of workers in various industries and sectors and the substantial government expenditure on healthcare and pensions for older adults (Marešová et al., 2014). Furthermore, scholars have explored the social implications of the ageing population, focusing on intergenerational relations, employment dynamics (e.g., retirement patterns and part-time employment), and changes in living arrangements (e.g., shifts in family structures, housing options, healthcare accessibility, and support systems) (Tinker, 2002; Woo et al., 2022). As such, the rapid growth of the global older population has brought to light significant economic and social concerns that highlight further research.

At an individual level, many changes occur with old age, including a potential decline in sensory functions (Humes & Young, 2016), motor skills (Berkowsky & Czaja, 2018), working memory and processing speed (Peeters et al., 2008), as well as changes in social status and living situations, such as retirement from work, loss of partners or relocation to

assisted living settings. According to the World Health Organisation (WHO) (2017), globally, over 20% of adults over 60 are estimated to suffer from mental or neurological illnesses, among which depression and dementia are the most prevalent. To address the care needs of older adults, research has started to explore the effectiveness of art interventions and community activities in promoting and enhancing their quality of life. Such interventions aim to support and foster the well-being of the ageing population.

It is important to note that older adults' experiences are not shaped by only one aspect but by a combination of various factors. Therefore, assuming or generalising that all older adults experience ageing is unwise. In that respect, the perception of ageing has changed from a deficit-oriented view, which emphasises declines and illnesses, to a more positive view, which emphasises continued growth and active participation in community and social activities (Stenner et al., 2011; Vines et al., 2015). This shift has led to the development of policy frameworks such as active ageing, introduced by the WHO in 2002, and healthy ageing, the new policy framework for 2021-2030, as part of a global collaboration by the WHO. Also, the notions of *successful ageing* (Rowe & Kahn, 1987) and the *third age* (Laslett, 1987, 1996) have brought together various research, media, and policy fields to offer new possibilities for engagement and development during older adulthood. Therefore, research on people enjoying greater longevity can significantly contribute to perceiving ageing as an age of fulfilment rather than decline and degeneration (Sadler, 2006). Furthermore, given that older adults now represent a significant proportion of our population, continued research is crucial.

1.2.2 Music in Later Life

In tandem with the growing older population, lifelong music engagement has drawn attention in music-related research. Researchers have explored how musical participation is linked to several positive outcomes. For instance, musical engagement is reported to have significant social, cognitive and emotional benefits compared to other leisure group activities (Hallam & Creech, 2016). It has also been shown to enhance the quality of life of older

adults, regardless of their cognitive ability or musical background (Cohen et al., 2002; Coulton et al., 2015; Hays & Minichiello, 2005; Seinfeld et al., 2013; Wattanasoei et al., 2017). Even though research on the broader benefits of music has traditionally focused on children and young adults, researchers have begun to pay attention to the potential musical benefits among older individuals in the past decades (Shepperd & Broughton, 2020).

It is worth noting that music learning and participation among adults and older adults may differ from that of children. Adult and older adult participants in music often come from diverse music and educational backgrounds, lifestyles, professions, and ideologies, and they may have previously experienced attempts and failures in music endeavours (Gomez-Ullate & Trujillo, 2016). Moreover, older adults may have more free time after retirement, which could be one of the motivations for seeking musical experiences (Creech et al., 2014; Wristen, 2006).

In terms of the types of musical participation, older adults can engage in various activities, including playing musical instruments, listening to music, composing, singing, and more. However, playing musical instruments, in particular, is often perceived as inaccessible after leaving school music education (Wristen, 2006). This often leads many adults who had previously been involved in learning musical instruments during school years to discontinue playing due to a lack of time and preoccupation with life events (Creech et al., 2014; Wristen, 2006). This often leaves listening to music as adulthood's most familiar musical engagement (Cohen et al., 2002).

Previous studies have highlighted the various social and emotional benefits of singing and listening to music for older adults (Creech et al., 2013; Petrovsky et al., 2020; Skingley et al., 2016; Wattanasoei et al., 2017). Since playing a musical instrument is a complex and stimulating activity that involves the synchronisation of various sensory modalities (such as hearing, sight, and touch) with the motor system in a distinctive manner (Seinfeld et al., 2013), many studies on playing musical instruments have investigated cognitive functions of older adults (Mansens et al., 2018; Guo et al., 2021; Arafa et al., 2022). Even so, studies on the experiences of musical instrument learning and playing in the

latter stages of life are few or limited. For instance, research using qualitative methods on the topic of learning musical instruments (Li & Southcott, 2015; Perkins & Williamon, 2011; Roulston et al., 2015; Taylor & Hallam, 2008) is relatively dated, and there is a paucity of English-language studies that investigate this topic with older adults from diverse backgrounds, particularly Korean older adults. Therefore, further research is required to bridge the knowledge gap in this area and to examine the experiences of older adults from diverse backgrounds who learn to play musical instruments. As such, this thesis aims to gain valuable insights into learning and playing a musical instrument in later life, which can inform policies and initiatives to provide musical opportunities for older adults.

1.2.3 Digital Technologies for Older Populations

In the past two decades, the increasing use of the Internet and mobile devices such as smartphones and tablets have profoundly impacted our daily lives by providing greater access to information. Tim Berners-Lee's introduction of the World Wide Web (WWW) in 1989 enabled global digital connectivity, leading to a consistent rise in the adoption of digital technology and ownership of electronic devices among older adults in most developing and developed countries (Anderson & Perrin, 2017; Faverio, 2022; Taylor & Silver, 2019). As baby boomers, born between 1946 and 1964, enter old age, they are likely to be accustomed to using digital technology from the earlier stages of their lives, further increasing the prevalence of digital technology use among older adults (Knowles & Hanson, 2018).

However, positive and negative sides surrounding older adults' capacity to use and adopt new technology have continuously been discussed (Martinez-Alcala et al., 2018; Vogels, 2019; Vollmer et al., 2017; Vroman et al., 2015). A study by Vroman et al. (2015) has argued the salient use of Information and Communications Technology (ICT) among older adults, reporting those with more positive attitudes towards technology perceived benefits than non-users. Another study has revealed that older adults can acquire digital skills if they are motivated or aware of the practical benefits of ICT (Martinez-Alcala et al.,

2018). Despite older adults' significant interests in ICT and learning to use modern digital technologies, researchers are concerned about a digital gap between generations. It has been argued that older adults still lag behind younger individuals in technology adoption and that Internet use among older adults is greatly contingent on personal factors such as age, gender, education, and income, as well as prior experience with technology and contextual factors such as country-specific wealth and communication technology infrastructure (Hunsaker & Hargittai, 2018; König et al., 2018; Seifert et al., 2018; Vogels, 2019). This kind of disparity in Internet and ICT use is often referred to as the 'digital divide' to suggest unequal access and use of the Internet in comparison between generations (Delello & Mcwhorter, 2017).

Despite those concerns over the understanding of information and computer technology (ICT) among older adults, it is undeniable that global attitudes and trends suggest that the older age group in many parts of the world is steadily adopting mobile technology and social media (Silver, 2019; Wike et al., 2022). It is reported that recent social circumstance, such as the COVID-19 pandemic, has significantly changed older adults' technology-related behaviours with higher levels of technology use for everyday activities such as shopping, socialising, and entertainment (Sixsmith et al., 2022).

In response to those advances in technology and its increased use, studies started to discuss how cloud-based services and streaming services such as YouTube and video sharing allowed people new ways of learning, consuming and sharing music (Cayari, 2011; Doebele, 2012; Krause & North, 2016; Kruse & Veblen, 2012; Waldron, 2012;). Therefore, there needs to be more research on the potential of technology to support the musical engagement of older adults. In a review of the literature using music technology in later life, Creech (2019) suggests older adults are capable of and interested in using technologies to access and create personally meaningful music, suggesting further research and development in exploring the potential benefits of music technologies for older people, particularly in the context of promoting active engagement with music. Therefore, as the

population ages, it becomes crucial to understand the role and potential of digital technology in shaping musical experiences, particularly for older adults.

Throughout this thesis, 'digital music technologies' refer to any technologies, mobile applications, and devices that enable people to interact with music digitally. This includes online streaming services, social media platforms, music-related mobile applications, and tools and devices in relation to music use (Krause & North, 2016; Mao & Good, 2018). By examining how older adults understand, use, and adapt to digital music technologies in their musical experiences, this thesis aims to contribute to the literature on ageing, music, and technology-related research. One of the key outcomes of this thesis will be addressing a research gap by exploring the motivations, experiences, and challenges older adults face as they engage in musical activities alongside digital music technology.

1.3 Research Questions

In line with the discussion offered within the previous section, this thesis builds upon existing research and discourse surrounding music participation in later life with the rationale of the increasing population of older adults, the growing interest in understanding the impacts of music participation in later life, and the expanding presence of digital technology. However, there is still limited research on how and why older adults engage in active music-making, particularly instrumental music learning and playing, and the role of digital technology in music participation. To address these concerns, the thesis aims to answer three research questions that focus on the lived experiences of older adults in learning and playing musical instruments in the digital age.

The first research question is, '**Why and how do older adults take part in learning to play musical instruments after retirement?**' (RQ1). This question focuses on understanding participants' motivations for learning and playing musical instruments. The aim is to explore what motivates participants to learn and play musical instruments, what they expect, and how they learn and play them. This research question serves as a

foundation for further investigation into the impacts of their experiences and the role of digital technology in the context of their music learning and playing.

The second question is, **'How do older adults experience digital music technology for learning and playing musical instruments?'** (RQ2). This question recognises that no single type of technology is relevant to music practices, and therefore, older adults may choose to use a specific type of technology that is suitable for their needs. It is important to note that this thesis does not assume any specific types of digital technology that older adults might use. Instead, it aims to enable them to reflect on perceptions and experiences of digital music technology. By exploring these perceptions and experiences, the thesis aims to understand better the potential benefits and challenges associated with using digital music technology in the context of music education for older adults.

The third question, **'What are older adults' perceived impacts of group learning and playing musical instruments on the lives of older adults after retirement?'** (RQ3) delves into the lived experiences of older adults in the context of group musical participation. This question aims to explore a deeper understanding of the impact of group musical participation on participants' lives and inform strategies for facilitating meaningful musical experiences within a group setting.

The overarching research question of this thesis is **'How do older adults perceive and engage in learning and playing musical instruments after retirement in the digital age?'** Through this exploration, this thesis seeks to contribute to promoting lifelong engagement with musical instruments among older adults, addressing its challenges and opportunities. By examining the perceptions and experiences of older adults, the thesis aims to shed light on the potential benefits of music engagement and inform the development of interventions and programmes that can enhance the well-being and quality of life of older adults through musical participation.

1.4 Research Context: South Korea

This section discusses the country of the research participants. The original research plan entailed conducting interviews in South Korea and the UK. However, the outbreak of the COVID-19 pandemic in early 2020 rendered the feasibility of conducting interviews in both countries uncertain because of the national lockdown in the UK between 2020 and 2021 (Institute for Government, 2022). Consequently, the fieldwork was exclusively conducted in South Korea with participants from the country, where a national lockdown was not imposed during the pandemic (Smith, 2023). Given this circumstance, it is necessary to provide relevant background information related to the fieldwork site of this thesis, given the homogeneity of the participants' national origins.

The Korean Peninsula is located in Northeast Asia, with a long history of around five thousand years. Since the Korean War (1950-1953), Korea has been divided into the Republic of Korea (South Korea) and the Democratic People's Republic of Korea (North Korea). South Korea is a presidential representative democratic republic in which the President is the Head of State with a multi-party system. Currently, South Korea is part of the Organization for Economic Cooperation and Development (OECD), and its economy by Gross Domestic Product (GDP) ranks 10th in the world (The World Bank, 2022). South Korea's culture is based heavily on Confucianism; however, Christianity is the prominent religion, with Buddhism as a close second (Korean Culture & Information Service, 2017).

The nation transformed from an agrarian society to an industrial society within forty years and rapidly developed into an information-oriented society in the 21st Century. Korea's economic transformation began in the 1960s by implementing policies such as the Five-Year Plan (Ahn, 2012). By the 1980s, South Korea had emerged as one of the world's fastest-growing economies, which helped to fuel the country's democratisation movement, eventually leading to free and fair presidential elections in 1987. In the 1990s, the economy was affected by the 1997 Asian financial crisis, which led to the financial crisis, which was called IMF (International Monetary Fund) crisis (Koo & Kiser, 2011). Since the recovery from the IMF crisis, South Korea has undergone significant economic growth and development,

with a focus on technology and innovation. According to data from the World Bank (2021), the Internet penetration rate in South Korea was around 96.8% of the population, one of the world's highest rates. Also, South Korea is home to some of the world's most innovative and successful technology companies, including Samsung, LG, and SK Telecom. These companies have played a significant role in driving the country's technological development and increasing access to digital services, reflecting the country's advanced digital infrastructure and widespread use of smartphones and other devices (Dayton, 2020; Silver, 2019).

Based on Confucian values, respect for the relationship between South Korean people is considered critical and emphasises reverence for older people, parents, and hierarchy. Korea's Confucian tradition often stresses the common good and social order over individual interests. Ryu and Cervero (2011) claim that South Korean society emphasises group harmony and promotes group orientation because a collectivistic culture has been rooted in South Korean society for a long time.

South Korea is one of the countries to become a 'super-aged society' by 2030, meaning more than twenty per cent of the population is sixty-five or older (O'Connor, 2014). More specifically, older adults (65 and older) were reported to be 13% of the total population in 2015, increasing to 20% in 2026 and 38% in 2050 (Lee, 2017). In response to the growing older population, the South Korean government has increased the number of educational institutions and programmes for older adults since the beginning of the 2000s (Choi, 2021). Particularly, several legal frameworks, such as the Senior Citizens Employment Promotion Law (1991), the Senior Citizens Welfare Law (1997) and the Lifelong Education Law (1999), assisted in expanding lifelong education communities (Kee & Kim, 2016). Furthermore, there reported significant challenges among South Korean older adults. Those challenges include income insecurity in old age due to inadequate pensions, low-income levels, and the increasing cost of living (Lee, 2017; Lee & Yeung, 2021) and emotional well-being due to cultural norm of a high value on self-control and emotional restraint (Kim et al., 2021).

South Korea's rapid increase in the older population has provided a backdrop for research in various fields, including ageing (Kee & Kim, 2016; Kim et al., 2021; Lee, 2017; Lee & Yeung, 2021). Nevertheless, despite the growing discourse on ageing-related concerns, more research is needed about music participation among the older population in South Korea. Previous studies on music participation among this population focus on its application as a therapeutic intervention (Oh & Lim, 2020) or survey-based investigations into the prevailing state of musical participation within this cohort (Han et al., 2016). Therefore, this thesis aims to provide invaluable insights into the musical experiences and perspectives of the older population.

1.5 Structure of Thesis

This introductory chapter has established the context of this thesis by outlining its objective of exploring the experiences of music learning and participation in later life in conjunction with the development of digital technology. After presenting starting points (1.1), this introduction has briefly discussed discourses around topics of older adulthood (1.2.1), music in later life (1.2.2) and digital technology for older populations (1.2.3) to argue for the significance of exploring older adults' music experience in the digital age.

Following this introduction, Chapter 2 provides a detailed academic literature review. This review provides further context to a new vision of ageing, the values of musical participation in later life, and the potential impact of digital music technology use. It further highlights the gaps in the literature regarding the subtleties and subjective perspectives of learning and playing musical instruments in later life and the increasing influence of digital music technology.

Chapter 3 begins with the ontological and epistemological background of the Interpretative Phenomenological Analysis (IPA), which serves as the methodological basis for this thesis. This chapter presents philosophical constructs which explain why IPA is an appropriate approach to understanding participants' experiences of learning and playing

musical instruments in the digital age. Subsequently, the chapter offers a detailed description of the data analysis process to provide a foundation for the findings presented in the following chapters.

Chapters 4, 5 and 6 present the findings of the analysed data. Three overarching themes emerged, which serve as the headings for Chapters 4, 5 and 6. Each chapter presents a diagram (Figures 11, 12 and 13) illustrating how themes are organised and grouped. The data from participant interviews are presented in each chapter according to the relevant theme, with a brief overview of each theme provided as the background for each section. By structuring the presentation of the data in this way, the reader can easily follow the analysis and interpretation of the findings.

Finally, Chapter 7 concludes the thesis. This begins by revisiting the research questions and critically evaluating the analysis method, then summarising key findings. This concluding chapter demonstrates how this thesis has narrowed the knowledge gap and contributed to a better understanding of music engagement among the older population. Additionally, the chapter explores the implications of this thesis for policy and practice in related areas and outlines future research directions. Overall, this thesis investigates how older adults perceive and engage in learning and playing musical instruments after retirement in the digital age, shedding light on a relatively underexplored area of research.

2. Literature Review

2.1 Introduction

This chapter offers a rehearsal of existing literature on perceptions of ageing, music participation in older adulthood, and the use of digital music technology. This chapter recognises that ageing is a universal experience and highlights the growing interest in exploring the impact of music participation on older adults' well-being and quality of life. By doing so, this chapter will lay the foundation for addressing the research gaps and answering the research questions presented in Chapter 1. Also, it will further set the stage for the subsequent chapters of the thesis and inform the development of research methodologies and approaches to addressing the research questions comprehensively and insightfully.

The literature search used scholarly databases such as Google Scholar, ProQuest, and Web of Science. Initially, a targeted search was performed in music education and psychology-related journals, using keywords such as 'older adults', 'music participation', and 'musical instrument'. This focused search provided insights into the current state of research in the related areas. However, the search was extended to more general searches on perceptions of ageing to gain a more comprehensive understanding of ageing and older adulthood. This included searches in sociology, gerontology, psychology journals, newspapers, and online publications. A further search was conducted to explore the topics of the use of technology in music participation among older adults. Although there was limited literature available specifically on this topic, relevant studies were identified using keywords such as 'music technology', 'digital technology', 'music instrument', 'music learning', and 'older adults', as well as broader literature on digital technology and ageing.

The literature search for this thesis initially focused on works written in English. However, considering that the participants of this thesis are of South Korean ethnicity, certain aspects of the research topic required more nuanced exploration. Then, the search was expanded to include relevant literature written in Korean. To achieve this, the RISS (Research Information Sharing Service) search engine (<https://www.riss.kr>) was utilised. RISS provides access to scholarly works held by Korean university libraries and offers free basic use. By exploring literature written in both English and Korean, a broader range of sources and perspectives were included, contributing to a more comprehensive and insightful analysis.

This literature review chapter comprises three sections, each examining a specific aspect of the intersection between ageing, music participation in later life, and digital music technology. The first section, 'A revised vision for ageing' (Section 2.2), examines existing literature on perceptions and attitudes towards ageing. The second section, 'Music participation in later life' (Section 2.3), delves into studies that explore the impacts of music participation on older adults, with a specific focus on learning and playing musical instruments in later life. Finally, the third section, 'Music technology and older adults' (Section 2.4), examines the potential impacts of digital music technology, arguing for new opportunities and challenges for musical experiences among older adults.

This literature review serves as an important foundation for the research questions presented in Chapter 1. Identifying gaps in the existing literature establishes the basis for this thesis's methodological strategy and design, which will be further elucidated and justified in the subsequent chapter. Overall, this chapter provides a critical understanding of the intersection between ageing, music participation in later life, and digital music technology, thereby establishing the groundwork for this thesis.

2.2. A Revised Vision for Ageing

Over the past few decades, there has been a growing emphasis on adopting a positive and holistic perspective towards ageing, shifting away from a paradigm solely focusing on physical decline and disengagement from society (Bülow & Söderqvist, 2014; Katz & Calasanti, 2015). This shift has implications for studies that acknowledge and promote active participation in later life, challenging ageist stereotypes and fostering psychosocial well-being through music participation in later life. The studies reviewed in this section explore the emergence of this revised vision for ageing as a meaningful discourse in the field, examining how it has prompted a fundamental shift in understanding the ageing process.

2.2.1 Ageing as Multidimensional Concept

Ageing is an unavoidable and natural lifelong process of human life, often accompanied by various declines and illnesses. However, it was not until recent decades that scholars attempted to challenge the negative stereotypes of old age. In literature, terms like 'optimal', 'successful', 'active', and 'healthy' are often used interchangeably to conceptualise and view ageing from more positive and optimal perspectives. One such concept in the gerontology literature is 'successful ageing', which has gained popularity and is considered 'one of gerontology's most successful ideas' (Katz & Calasanti, 2015, p. 26). Furthermore, considerable literature has explored the positive relationship between music participation and successful ageing (Bugos, 2014; Lo, 2015; Teater & Baldwin, 2014; Lee & Southcott, 2020).

2.1.1.1 Successful Ageing

Contemporary interests in ageing emerged as two social theories of ageing, disengagement theory and activity theory, developed at the beginning of the 20th century (Baltes & Smith, 2003; Fernández-Ballesteros, 2019; Rowland & Rowland, 2012). Disengagement theory considers that ageing inevitably leads to decline, separating

individuals and society. In contrast, activity theory challenges disengagement theory by perceiving that the level of activities and social interaction yields life satisfaction in later life (Fernández-Ballesteros, 2019). These two diverging theories of ageing resulted in extensive longitudinal studies on ageing, such as the Baltimore Longitudinal Study of Aging (initiated in 1958) and the Bonn Gerontological Longitudinal Study of Ageing (initiated in 1965), which contributed to considering ageing from multidimensional perspectives within academia, leading to the movement toward new positive gerontology (Fernández-Ballesteros, 2019; Johnson & Mutchler, 2014).

Building on those longitudinal studies, successful ageing drew attention from Rowe and Kahn's seminal paper 'Human Aging: Usual and Successful' (1987). Their central discussion point counteracts 'the longstanding tendency of gerontology to emphasise only the distinction between the pathologic and non-pathologic, that is, between older people with diseases or disabilities and those suffering from neither' (Rowe & Kahn, 1987, p. 143). Since previous research had focused on dividing the older adults' group into diseased versus non-diseased, disregarding heterogeneity among older adults in the non-diseased group, Rowe and Kahn claimed research on ageing needs to create a gerontology of the usual, which focuses on 'what most older adults do and do not do, what physiological and psychologic states are typical' (Rowe & Kahn, 1987, p.143). Given this distinction within this conceptualisation of normality, early studies of successful ageing argued that normal ageing should be understood by 'the contrast between usual on the one hand, and successful on the other' (Rowe & Kahn, 1987, p.143). Thus, Rowe and Kahn's main arguments challenged the traditional definition of ageing in terms of an inevitable physiological and cognitive decline by claiming that ageing research should also focus on older adults who have 'little or no loss in a constellation of physiologic functions' (Rowe & Kahn, 1987, p.144). Successful ageing has been cited and referred to in a plethora of research literature related to ageing that this new positive direction for ageing research superseded the earlier focus on decline and loss in light of increasing life expectancy (Bülow & Söderqvist, 2014; Christensen et al., 2009; Holstein & Minkler, 2003).

Rowe and Kahn (1997) further identified three components of successful ageing based on a longitudinal study of 1,200 people's physical and mental functioning. These components include 1) Avoiding disease and disability, 2) High cognitive and physical function, and 3) Engagement with life. This tripartite conceptualisation especially emphasises the importance of active engagement with life. They write:

[...] successful aging is more than the absence of disease, important though that is, and more than the maintenance of functional capacities, important as it is. Both are important components of successful ageing, but their combination with active engagement with life represents the concept of successful ageing most fully (Rowe & Kahn, 1997, p.433).

In another article, Rowe (1997) also elaborates on the importance of full engagement with life in achieving successful ageing, arguing that productive activities and interpersonal relations are essential. Nevertheless, the concept of successful ageing has also faced criticism for overemphasising individual responsibility and control over ageing outcomes, neglecting the broader social, economic, and political contexts that shape older adults' lives. As a result, the concept of successful ageing has engendered considerable debate, which is discussed in the following section.

2.1.1.2 To A More Holistic View of Ageing

One of the criticisms of successful ageing revolves around the disregard for the influences of social and institutional factors that shape individuals' lives. Riley (1998) points out that 'what Drs. Rowe and Kahn neglect is this dependence of successful aging upon structural opportunities in schools, offices, nursing homes, families, communities, social networks, and society at large' (p. 151). In response to such criticism, Kahn (2002) acknowledges that their model of successful ageing focuses on 'what individuals themselves can do to use, maintain, and perhaps even improve what they have—their physical and mental capacities' (p.726), suggesting the theoretical integration of related models. However, critics argue that successful ageing merely emphasises individual responsibility and control over the ageing process while excluding the broader social, economic, and political contexts that shape the lives of older adults (Katz & Calasanti, 2015).

Other critics present critical perspectives from a semantic and grammatical point of view. Baltes and Carstensen (1996) argue that the word 'success' often implies 'favourable attainments deriving from one's own behaviour and actions' (p.400) or 'the attainment of personal goals of all types' (p.400). Therefore, they suggest that it may be somewhat unsuitable for describing ageing, which is often associated with 'a time of decline' (p.401). From this point of view, Fernández-Ballesteros (2019) represents Baltes and Carstensen's argument (1996) of the paradoxical quality of the positive term 'successful' with the negative term 'ageing', suggesting that it creates an oxymoron. Fernández-Ballesteros (2019) further summarises:

Therefore, in our opinion, the juxtaposition of successful-positive and aging-negative is a *subtle* one because aging implies both growth and decline throughout a life span. Thus, both negative and positive events are associated with aging to a greater or lesser probability; similarly, when considering cultural views and stereotypes, aging has not had a totally negative connotation when not only negative views, but also positive evaluative images are introduced. In sum, successful aging could be considered only a *subtle oxymoron* (p.8).

This perspective highlights the complex and nuanced nature of ageing, where both positive and negative experiences and perceptions coexist, suggesting that the term 'successful ageing' may present a subtle contradiction.

Similarly, other critics have argued that the theoretical definition of 'success' lacks clarity and awareness of individual life trajectories and environmental realities. (Lazar et al., 2017; Strawbridge et al., 2002; Vines et al., 2015). Strawbridge et al. (2002) claim that successful ageing is a remarkably complex concept which does not include sharper distinction and consistency in their terms, so it cannot be answered simply by responses like 'excellent', 'good', 'fair', or 'poor'. Also, it is concerning that those who do not have the financial capability or physical health might be blamed for being 'unsuccessful', leading to a distinction between successful ageing on the one hand and normal (or usual) on the other hand (Lazar et al., 2017). In line with the previous discussion regarding the subtle oxymoronic quality of the word, the critics claim that the adjective 'successful' is contentious

and that the ambivalence of two words, 'successful' and 'ageing', might imply a contest between successful ageing and unsuccessful ageing (Lazar et al., 2017; Vines et al., 2015).

Another group of commentators also argue that there is no consensual definition of successful ageing. For instance, Cosco et al. (2014) and Depp and Jeste (2006) argue that previous studies merely provide the components of successful ageing, not a universal or operational definition of successful ageing. Katz and Calasanti (2015) also discuss the inconsistency of its definitions across studies, asserting that 'the meaning of successful ageing is often more implied than delineated' (p. 27). On the other hand, Annele et al. (2019) compromise that successful ageing is a multidimensional concept embracing physical, functional, social, and psychological domains as well as objective and subjective conditions. Therefore, they defend that the concept has to provide various and sometimes unclear operational definitions. Although the concept of successful ageing has remained influential, criticism from the academic community continues to induce much debate. As such, various viewpoints bring attention to a more holistic view of ageing.

Extending the literature on successful ageing, studies have discussed the need to develop a broader understanding of its approach, looking at individual and population levels (Fernández-Ballesteros, 2019). Accordingly, besides successful ageing, other positive labels such as 'healthy ageing', 'optimal ageing', 'active ageing', and 'productive ageing' have been used exponentially in gerontology. Policies at a population level led to a purposeful and systematic approach to focus on older adults' latent and unused potential. For instance, the World Health Organisation (WHO) introduced the term 'active ageing' in 2002, and it is widely used in research and policy. Foster and Walker (2015) argue that active ageing presents a more holistic approach than successful ageing, emphasising a more comprehensive focus on societal responsibilities rather than individual responsibilities. However, since 2021, the WHO has replaced 'active ageing' with 'healthy ageing' as a part of its global initiative entitled *The United Nations Decade of Healthy Ageing (2021–2030)*. This aims to highlight the impacts of the ageing population on our society. However, despite

the variation in terminology used, all these concepts agree to conceptualise ageing from more positive and optimal perspectives rather than from the perspectives of decline.

After reviewing research studies and theory-based arguments related to ageing, Fernández-Ballesteros (2019) argues that a definition of ageing needs to be multidimensional, incorporating multiple domains and methods while considering both objectives and subjective conditions. After all, Fernández-Ballesteros presents a more extended definition of 'ageing well' through a four-domain model, which encompasses the constructs of 'health and functionality', 'physical and cognitive fitness', 'positive affect and control', and 'social participation and engagement' as presented in Figure 1 (Fernández-Ballesteros, 2019, p.19). The model's development reflects the perceived need for a more holistic view comprising various individual and social components. By doing so, it aims to validate distinct domains encompassing various criteria found in definitions of healthy, successful, active, or productive ageing (Fernandez-Ballesteros, 2019). Therefore, adopting a more holistic view of ageing involves looking at it from individual and societal perspectives, which helps foster a positive outlook on the ageing process.

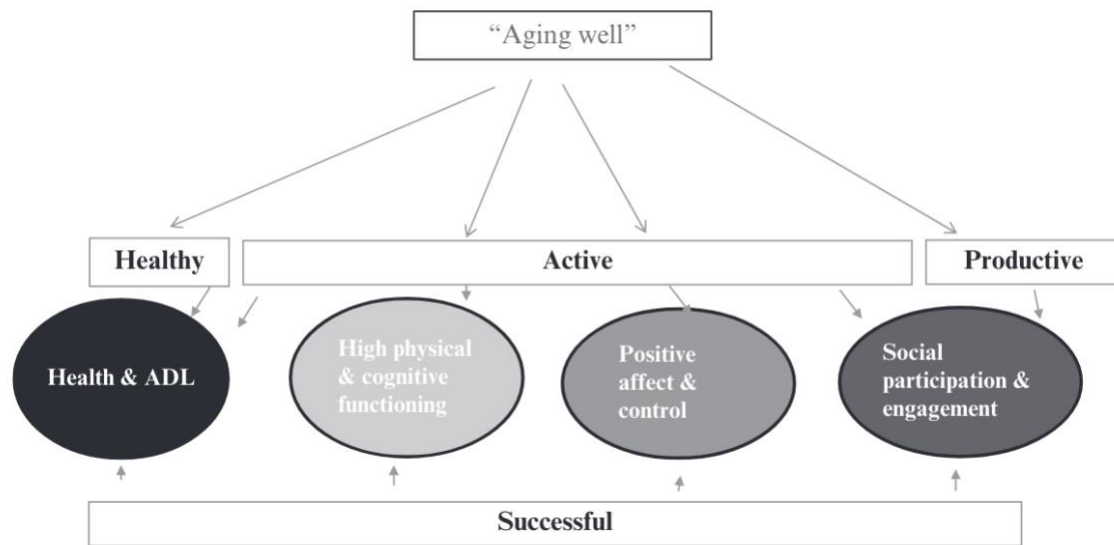


Figure 1: Four Domains Model of Successful Ageing

Note. More extended definitions with four domains of successful ageing. From *The Cambridge Handbook of Successful Aging* (p.19), by R. Fernández-Ballesteros, 2019, Cambridge University Press. Copyright 2019 by Cambridge University Press.

In sum, successful ageing is a technical term presented by Rowe and Kahn to promote a positive view of ageing. Despite certain limitations, the concept of successful ageing, also under different terms (e.g., active ageing, healthy ageing, optimal ageing, positive ageing), has become a core global movement to adopt a positive perspective towards ageing within society. Nonetheless, in reviewing the literature on ageing, it needs to be acknowledged that studies highlight the importance of a more holistic view of ageing that includes older adults' subjective perspectives on ageing (Rowe & Kahn, 2015; Martinson & Berridge, 2015). This is because individuals' subjective well-being incorporates multiple domains with both objectives and subjective conditions (Fernandez-Ballesteros, 2019). As such, by embracing a more holistic view of ageing, further studies need to better capture the multifaceted aspects of ageing and inform policies and interventions that address the diverse needs and aspirations of older adults. In this regard, Stenner et al. (2011) challenged the pervasiveness of the 'cause-effect' approach in the literature on successful ageing literature, suggesting the need to consider the heterogeneity among older populations when studying

their ageing experiences. Thus, investigating why and how older adults perceive and engage in active music-making aligns with the necessity for studies that consider subjective factors and acknowledge the diversity among older populations. Following this line of argument, the subsequent section sets the stage for literature that unpacks the specific stage of later life, the third age (2.1.2) and post-retirement (2.1.3), which is relevant to this thesis' research participants.

2.2.2 The Third Age

Age-related theories and the human development model suggest commonalities across each stage of life. For instance, Erikson's (1950) psychosocial development theory provides a comprehensive framework for understanding adult human development across the lifespan, highlighting the social nature of human beings and the influence of social relationships on human development (Malone et al., 2016). According to Erikson's model, the final stage, stage eight, involves reflecting on life experiences of facing a conflict between *integrity vs despair*, which leads to feelings of wisdom or despair depending on whether one meets the developmental challenges.

Concerning the classification of old age, some scholars argue that classifying people over 60 merely as 'old' is comprehensive (Kydd et al., 2018; Morrow-Howell, 2012; Serra et al., 2011). After reviewing the literature, Kydd et al. (2018) claim that there needs to be more consistency in classifying different age groups, particularly within the 60-69 and 70-79 age ranges. They further argue that categorising based merely on chronology overlooks the intricate interplay of various factors that influence the ageing process and disregards the significance of recognising and addressing the highly distinct life experiences individuals may have.

Many scholars agree that internal and external factors significantly shape outcomes in later life rather than age itself. Similarly, Morrow-Howell (2012) challenges the definition of old age by highlighting the increasing life expectancy in most developed countries. Morrow-Howell asks, 'Will we continue to use 60 or 65 years old to define the older population, even

when most people in that category will be there for 20 or 30 more years?’ (p. 379). In addition, Morrow-Howell argues that classifying individuals over 65 as a single population group is detrimental to research and reinforces stereotypes and misconceptions about ageing. In its acknowledgement that the older population is heterogeneous, Morrow-Howell suggests considering the varying needs of individuals in their 60s, 70s, and 80s. Drawing inspiration from G. Stanley Hall's establishment of the study of adolescence within the human life course, some researchers propose recognising a new stage of life between midlife and old age (Carstensen, 2009). Consequently, the third age refers to celebrating the extended period of life after 60 and highlights the potential for later life (Morrow-Howell, 2012).

The concept of the *third age* advocates that increased life expectancy and socioeconomic development have created an era after retirement where individuals can develop a distinct and personally fulfilling lifestyle (Laslett, 1987). The third age is described as ‘the age of personal achievement and fulfilment’ (Laslett, 1987, p.135), one of the life stages that classifies the human life course into four, as shown in Table 1. Though it is criticised for being relevant only to developed countries with population ageing and fair economic conditions, it has drawn attention to studying older adulthood (Kydd et al., 2018; Sadler, 2006).

Table 1

Laslett's (1987) New Division of Life Course

Life stage	Main characteristics
First Age	Dependence, socialization, immaturity, education
Second Age	Independence, maturity, responsibility, earning, saving
Third Age	Personal fulfilment
Fourth Age	Dependence, decrepitude, death

As described above, the third age is marked as the era of personal fulfilment. Some authors mention it as the age of active leisure (Chatzitheochari & Arber, 2011) or the age of

active retirement (Ellis, 2006). On the other hand, some studies argue that the upper age limit for the third age is not necessarily chronological and that the ability to live independently is the distinguishing feature between the third and fourth ages (Rowland, 2012).

Acknowledging that health condition is the baseline, Rowland (2012) succinctly outlines the concept of the third age as follows:

The Third Age is often considered a time, after retirement, when good health and opportunities for self-selected pursuits permit a range of fulfilling activities. It represents a stage where older individuals' characteristics are likely to be conducive to quality of life (p.168).

As such, acknowledging the importance of health as a baseline, the third age is considered a phase when individuals, enjoying good health and opportunities for self-selected pursuits, engage in various fulfilling activities that contribute to a higher quality of life.

Given the various factors that shape human life, including gender, age, ethnicity, health, disability, sexual identity, religion, and socioeconomic status, it is essential to approach generalisations about older individuals cautiously. In this regard, the concept of third age highlights the heterogeneity of experiences among older adults and advocates for considering the subdivision of phases within later life. In line with this perspective, this thesis aims to explore individuals within the context of the third age, which recognises the unique characteristics and potential for fulfilment during this stage of life. Hence, by delving into older adults' subjective perspectives and subtle meanings associated with music experiences, this thesis seeks to provide valuable insights into the role of music in their lives. Moreover, it acknowledges the intricate interplay between personal, social, and cultural factors that shape their experiences within the context of the third age, a period commonly associated with retirement.

2.2.3 Retirement and Psychological Well-being

Retirement is a highly individualised and complex experience that involves personal and situational factors. Retirement has been studied in multiple disciplines, including industrial and organisational psychology, organisational behaviour, economics, sociology,

gerontology, and political science (Beehr & Bowling, 2012). The most common definition is non-participation in the labour force or reduced hours worked and earnings (Denton & Spencer, 2009). From a psychological perspective, retirement is also recognised as a transition away from employment, accompanied by decreased psychological attachment to work (Wang & Shi, 2014). These definitions highlight that retirement denotes not only a physical detachment from work but also psychosocial changes following retirement, such as decreased stress and responsibilities in daily life (Wang & Shi, 2014).

Studies have been made to understand the factors influencing people's quality of life after retirement. After reviewing ten years of retirement research, Wang and Hesketh (2012) provided factors that influence psychological well-being in retirement. The factors identified in their review encompass individual attributes, pre-retirement job-related factors, family-related factors, retirement transition-related factors, and post-retirement activities, as presented in Table 2. The breadth of these factors suggests the multidimensional nature of retirement and identifies various factors that can influence individuals' psychological well-being during this life stage.

Table 2*Wang and Hesketh (2012)'s Summary of Factors of Psychological Well-Being in Retirement*

Factor categories	Influencing factors
Individual attributes	Financial status Physical health Physical health decline
Pre-retirement job-related factors	Work stress Job demands Job challenges Job dissatisfaction Unemployment before retirement Stronger work role identity
Family-related factors	Marital status (married vs single/widowed) Spouse working status (working vs not) Marital quality More dependents Losing a partner during the retirement transition
Retirement transition-related factors	Voluntariness of the retirement Retirement planning Retiring earlier than expected Retiring for health care reasons Retiring to do other things Retiring to receive financial incentives
Post-retirement activities	Bridge employment Volunteer work Leisure activities Anxiety associated with social activities

Note. Adapted from 'Achieving well-being in retirement: Recommendations from 20 years of research', by M. Wang, and B. Hesketh, 2012, *SIOP White Paper Series [No. 520162013-001]*, Society for Industrial and Organizational Psychology, Inc. Copyright 2012 by Society for Industrial and Organizational Psychology, Inc.

The research focused on psychological well-being after retirement has shown that voluntary versus involuntary retirement significantly affects life satisfaction. Involuntary retirement is negatively related to life satisfaction, whereas voluntary retirement is positively related to well-being (Dingemans & Henkens, 2015; Hershey & Henkens, 2014; Newton, 2021; Nordenmark & Stattin, 2009;). These findings suggest that achieving psychological well-being in retirement is associated with the level of control over the time of retirement.

Also, research has shown that post-retirement activities such as bridge employment³, volunteer work and leisure activities have been identified as crucial factors in retirees' psychological well-being. Given this context, music participation emerges as a potential post-retirement activity that can positively impact retirees' psychological well-being (Dingemans & Henkens, 2015; Nalin & Franca, 2015; Newton, 2021; Wang & Shi, 2014).

A more recent systematic literature review by Amorim and Franca (2019) investigated cross-sectional and longitudinal retirement and well-being studies. This review found multidimensional factors that contribute to a positive retirement experience, including demographic characteristics (e.g., gender and conjugal status), personal resources (e.g., health, economic situation, and interpersonal relationships), the characteristics of retirement (such as voluntary retirement, retirement time) and engagement in leisure activities (Amorim & Franca, 2019, p.167). Similarly, another systematic review (Barbosa et al., 2016) has suggested that physical health, financial well-being, psychological health, personality attributes, engagement in leisure activities, voluntary retirement, and social integration are prevalent factors that facilitate adjustment during retirement. These reviews show that the factors contributing to a retirement experience are multifaceted, involving demographic characteristics, personal resources, and engagement in leisure activities. Thus, a nuanced understanding of retirement experiences requires considering multiple factors and their interplay.

Academic attention to ageing in East Asia has also flourished in recent years in line with the rapid growth of the age over sixty-five population (Yeung & Lee, 2022). With respect to this thesis participants' ethnicity, considerable research has explored the social and psychological outcomes of retirement in South Korea (Cho et al., 2016; Woo et al., 2022; Cho & Lee, 2014). Notably, studies have focused on the association between financial issues and well-being in older adulthood, highlighting that South Korea has a less generous

³ Bridge employment refers to the various ways in which older individuals continue to participate in the labour market after retiring from a long-held position, but before completely withdrawing from the workforce (Topa et al., 2014).

pension system than other developed countries, which impacts the life satisfaction of older individuals (Cho et al., 2016; Woo et al., 2022). For instance, Cho et al. (2016) show that older adults with lower education levels tend to work off and on after retirement due to limited security in the labour market and pension system. Other studies focusing on the impacts of financial issues on life satisfaction after retirement suggest that economic stress resulting from being unprepared for retirement directly affects retirees' lower life satisfaction (Woo et al., 2022; Li et al., 2018).

Moreover, cross-national comparison research (Cho & Lee, 2014) suggests that older adults with complete retirement, meaning a permanent departure from work-life, had higher levels of life satisfaction than those who continued working. On the other hand, in Germany and Switzerland, where different institutional backgrounds and different policies related to retirement exist compared to South Korea, those who continued to work had higher levels of life satisfaction. Cho and Lee further assert that in South Korea, individuals who opt for a continuous type of retirement are more likely to be manual workers with lower levels of schooling compared to those who undergo the complete retirement process, often accompanied by pension security. While studies have highlighted that financial status is one of the significant factors influencing retirees' psychological well-being both in South Korea and some Western countries (Dingemans & Henkens, 2015; Nalin & Franca, 2015; Newton, 2021; Wang & Hesketh, 2012), the studies conducted in South Korea, however, have suggested the pension systems and economic stress as one of the important factors influencing the well-being and life satisfaction of older individuals in South Korea. Hence, when investigating the lives of older adults after retirement, it is imperative to consider factors such as financial circumstances, cultural context, educational background, and occupational history as they contribute to shaping their experiences.

In summary, Section 2.1 discussed a revised vision of ageing that challenges traditional notions of ageing as a period of decline and dependence, promoting a more positive and holistic perspective that emphasises the potential for continued growth and

development in later life. This vision of old age has challenged the mere classification of old age and introduced the 'third age' concept, which often refers to a stage after retirement where individuals can pursue personal fulfilment and achievement. Retirement, viewed as a significant transition, may offer opportunities for active participation and engagement in society, which can contribute to the overall well-being of older adults.

Notably, there has been a growing interest in exploring the impacts of music participation in older adulthood, as presented by several studies (Daykin et al., 2018; Dingle et al., 2020; Creech et al., 2013; Hallam et al., 2016; Pentikäinen et al., 2021; Perkins & Williamon, 2014). This increasing interest in the values of active music-making in later life reflects the importance of music in the lives of older adults. However, there is a need for further research to explore active participation in music, specifically during the third age and in life after retirement, considering the diverse range of life experiences among individuals. Therefore, this research gap aligns with the first research question of this thesis (RQ1 in Section 1.3): Why and how do older adults take part in learning to play musical instruments after retirement? Examining active music participation during the third age and in the post-retirement phase will contribute to a better understanding of the various factors that influence and shape older adults' participation in active music-making by considering cultural contexts and personal motivations. Subsequently, the following section reviews relevant literature that reflects this increasing interest in the benefits of music participation for older adults, shedding light on the potential outcomes and implications of engaging in musical activities during later life.

2.3 Music Participation in Later Life

The importance of music participation in later life cannot be overstated, as research has shown that music participation can provide physical, cognitive, and social benefits, improve mood and quality of life, and reduce the risk of age-related health conditions (Hallam & Creech, 2016; Hallam & Himonides, 2022). As such, over the past few decades,

scholarly literature has extensively examined the various factors influencing music participation among older adults, specifically in the realms of community music, lifelong learning, and leisure activities (Coffman, 2002; Cohen et al., 2002; Fancourt & Finn, 2019; Hallam & Creech, 2016; Hallam & Himonides, 2022; Hays & Minichiello, 2005). Yet, literature on the impacts of music in older adults can be traced back to the early twentieth century.

Thayer Gaston (1945) is an early scholar who scholarly discussed the effects of music on human beings in an article entitled 'Music Education for Health'. This implied music's practical use in education and therapy (Johnson, 1981; Anunson, 1995). Gaston subsequently professed music as an ideal medium for non-verbal expression and for developing social integration and participation for children, especially in music education. He states:

Music education can do much more than it has in the past toward this end. It can be truly democratic and reach all children, take them by the hand and show them the true benefits of music, thereby enabling them ever afterward to look to music for catharsis of undue tension and relief from worry, for inspiration, good fellowship, creativity, happiness and good health (Gaston, 1968, p.25).

Following Gaston, studies started to argue the potential of music for older adults, for instance, to stimulate physical exercise and develop self-esteem (Michel, 1976; Liederman, 1967; Palmer, 1977). Another early study examined older adults' music preferences, which showed that they preferred music of their young adult years and preferred stimulative music over soothing music (Gibbons, 1977).

With the recent surge of ageing studies, particularly focusing on positive concepts such as successful ageing (as discussed in Section 2.1), research on older adults' musical participation has emerged, challenging preconceived notions and misconceptions surrounding older adulthood. For instance, in their article on a review of the literature between 1957 and 1990, Darrough and Boswell (1992) outline various examples of stereotypical assumptions:

The notion that elderly persons are frail individuals who lack capacities for musical development, have no desire to learn or relearn musical skills, prefer passive

activities, prefer sedate musical styles to all others, and are satisfied with mediocre performances requiring little or no skill (p. 25).

Darrough and Boswell referenced McCullough's (1981) call for a well-defined philosophy of music education aimed at older adults' music learning and teaching, hoping to 'dispel the conception that music education begins at pre-childhood and ends at the conclusion of high school or college' (Darrough & Boswell, 1992, p.26). Darrough and Boswell concluded that further research is needed to explore older adults' perspectives on ability, age-appropriate activities, style preferences, and group dynamics in musical activities. Over the past few decades, numerous studies have explored the potential benefits of various forms of musical participation among older adults.

2.3.1 Benefits of Music Participation for Older Adults

Many studies have revealed that music participation can provide significant physical, cognitive, emotional, musicianship and social benefits for older adults, enhancing their overall well-being and quality of life (Coffman, 2002; Creech et al., 2014; Fung & Lehmborg, 2016; Hays & Miniciello, 2005; Krause et al., 2018). Among the frequent music activities by older adults are music listening and singing (Fung & Lehmborg, 2016), but singing has received considerable attention in the literature on music and well-being (Krause et al., 2018). This means that compared to music listening and singing, playing a musical instrument can be perceived to be less discussed in the literature, as argued by scholars (Diaz Abrahan et al., 2019; Gembris, 2012; Jutras, 2011; Krause et al., 2018). Therefore, this section presents studies on the benefits of music participation, focusing on music listening, singing, as well as instrument playing to address the limited research on instrument playing among older adults despite its benefits. It is important to note that this review focuses on music participation as an everyday activity and music learning rather than the literature on music as an intervention in therapy contexts. This is because the research question of this thesis is to explore instrumental music playing and learning in the context of everyday life after retirement.

2.3.1.1 Music Listening

Laukka (2007) conducted a study in Sweden that examined the use of music in the everyday lives of older adults, as well as their motivations for listening to music. The findings showed that listening to music is a common and greatly valued activity among older adults. Their motivation for listening to music was to induce emotions, especially positive ones. These findings were neither surprising nor new because previous studies indicated that the primary motive for listening to music among adults was to evoke positive emotions and memories (Juslin & Laukka, 2004; Sloboda et al., 2001).

The emotional benefits of music listening are prominent in more recent studies. Groarke and Hogan (2016) compared the perceived roles of music listening among younger and older adults. The findings revealed that older and younger adults predominantly use music listening for affect regulation (e.g., relaxation, enjoyment and reducing loneliness and stress). Nevertheless, whilst younger adults additionally identified it with creating a personal space, older adults further emphasised social connection (e.g., connection with the world) and therapeutic benefits of music listening (e.g., enriching the vitality of the body and the brain). Another study by Krause and Davidson (2021) also found perceived emotional benefits of music listening, including entertainment, enjoyment, relaxation, and mood regulation.

Costa and Ockelford's study (2018) examined the impact of regularly attending classical and jazz live music concerts. Semi-structured interviews were performed to explore participants' experiences related to music and the event itself. The findings revealed that while music promoted positive emotions such as happiness, relaxation, inspiration, awe and gratitude, it also reduced negative emotions, including anxiety and worry. Moreover, the social aspect of the musical events lessened loneliness among the participants and facilitated pleasant feelings. The study indicated that attending live music events can benefit older adults, particularly in evoking positive emotions and fostering connections to others. Moreover, in a recent study, music listening was beneficial during social distancing among older adults. Groarke et al. (2022) found that music listening was perceived as an emotional

resource and a social surrogate among older adults during the COVID-19 pandemic, which supported older adults who had to undergo social isolation.

As such, studies have consistently found that listening to music is a common and highly valued activity among older adults, with the potential to induce positive emotions and memories and facilitate social connection. Further studies have shown that attending live music events and listening to music during social distancing circumstances was beneficial by providing emotional resources and as a social surrogate for older adults. The literature has shown that music listening is one of the most accessible and valued music activities among older adults.

2.3.1.2 Singing

Participating in a group singing is another musical activity that has been discussed in a considerable number of studies. As singing 'is employed in most cultures for entertainment or self-expression' (Mesaros & Virtanen, 2010, p. 1), studies have identified several benefits of group singing, particularly in relation to the social and physical well-being of older adults, who often experience increased social isolation and long-term medical conditions. In particular, group singing is widely accepted as a non-threatening and favourable community-based activity for older adults.

Lally (2009) conducted a study at 'Sweet Tonic', a community arts project in southwest Sydney, Australia that provided an educational singing programme for older adults. The findings showed improvements in participants' physical flexibility, emotional well-being (relaxation and self-esteem), social interaction, and musical skills. Another study of a community singing programme by Skingley et al. (2016) used interviews to investigate the perceived benefits of community singing. The participants reported benefits related to breathing, enjoyment, mental health, and social connectedness. These findings support other literature (Cliff et al., 2017; Cohen et al., 2006; Coulton et al., 2015; Lamont et al., 2018; Pentikäinen et al., 2021; Teater & Baldwin, 2014) that collectively suggests group

singing can reduce depression and anxiety and foster social engagement and autonomy among older adults, regardless of demographic factors or cognitive function.

Moreover, studies of older Chinese immigrants (Li & Southcott, 2012) and older Russian immigrants (Southcott & Nethsinghe, 2019) in Australia revealed that singing in groups of participants with similar cultural and linguistic backgrounds offered opportunities for social connection and belonging. These studies, primarily based on interviews and questionnaires, have consistently highlighted the social connections and sense of belonging that group singing offers to older adults. Importantly, these benefits were independent of cultural background, highlighting the potential for group singing as a social activity for older adults for their well-being and social integration.

Group singing has been extensively studied and found to provide numerous benefits for older adults, particularly regarding their social and physical well-being. Various studies have demonstrated that group singing is a non-threatening and enjoyable community-based activity that can reduce social isolation and improve older adults' overall quality of life.

2.3.1.3 Instrument Playing

Compared to singing and listening to music, playing a musical instrument can be perceived to be a less accessible activity in older adulthood due to limited access to instruments and fewer learning opportunities (Diaz Abrahan et al., 2019; Gembris, 2012; Jutras, 2011; Krause et al., 2018). However, playing a musical instrument promotes various psychosocial benefits for older adults, regardless of their prior experience or the duration of their learning (Bugos et al., 2016; Creech et al., 2014; Roulston, 2015; Seinfeld et al., 2013). Studies have demonstrated that playing a musical instrument is not only a fun and meaningful activity but also provides a sense of accomplishment, personal pleasure, and stress relief, all of which contribute significantly to one's quality of life (Fung & Lehmborg, 2016; Gembris, 2008; Jutras, 2011; MacRitchie et al., 2020).

One example of studies on a musical group that explored benefits among older adults was the 'New Horizon' ensemble, established by the National Association for Music

Merchants and the National Association of Band Instrument Manufacturers across the US in the early 1990s. The related studies revealed that older adults who participated in the ensemble improved their musical skills and made new friends with musical and non-musical benefits (Coffman & Levy, 1997; Ernst & Emmons, 1992; Helton, 2020; Jutras, 2011). As such, studies on group playing and learning suggest that the social aspect of the ensemble offers well-being benefits by developing new relationships and decreasing isolation (Roulston et al., 2015).

In recent years, there has been growing recognition of the cognitive benefits of playing a musical instrument among older adults, particularly in reducing the risk of dementia (Arafa et al., 2022; Mansens et al., 2018). Furthermore, a scoping review conducted by Schneider et al. (2019) involving eleven studies on older adults' musical instrument playing indicated positive outcomes on cognitive ability. Another study of the cognitive benefits for older adults by MacRitchie et al. (2020) claims that a ten-week piano training programme positively impacted visuomotor skills among older adults. MacRitchie et al. (2020) also suggested the importance of the group learning environment in motivating older adults to learn a musical instrument. Further exploration of this aspect of learning musical instruments will be discussed in detail in Section 2.3.2.2.

The studies reviewed in this section highlight that those three types of musical participation, including listening to music, singing, and playing instruments, are often discussed in the literature on music participation in later life. They have been found to promote positive emotions, create meaningful memories, and enhance social and cognitive functions, leading studies to assert that music participation during later life contributes to psychological and social well-being. Furthermore, studies show that listening to music is the most reported and accessed activity for older adults in everyday life. Nonetheless, playing a musical instrument may be less accessible to older adults due to factors such as limited availability and fewer learning opportunities, despite the known benefits associated with it (Diaz Abrahan et al., 2019; Gembris, 2012; Jutras, 2011; Krause et al., 2018). Therefore,

there is a significant research gap regarding the experiences of playing musical instruments in later life, highlighting the need to investigate and understand the active engagement of older adults in music-making.

2.3.2 Music Learning in Older Adulthood

Research on music learning in older adulthood has become a significant area of study in light of the increased value of lifelong learning and the importance of staying active and engaged in later life (Bayley & Waldron, 2020). Learning in later life appears different from learning in childhood or younger adulthood as physical and cognitive abilities change and life transitions accompany old age, influencing the approach of teaching and the way they learn (Duay & Bryan, 2008; Edosomwan, 2016). Therefore, the implication of music learning in later life can no longer be circumvented, considering the potential unique benefits and challenges associated with learning a musical instrument during this stage of life. This section aims to review the existing literature on music learning in older adulthood, shedding light on this important area of research.

2.3.2.1 Older Adults as Learners

Given the increasing awareness of the importance of lifelong learning and learning opportunities for older adults, there is a pertinent question regarding the potential disparities between learning in adulthood and older adulthood compared to childhood learning (Tam, 2014). This raises the need to explore whether a distinct teaching and learning theory is required to cater to the unique characteristics of older adults. Studies suggest that as people age, they experience physical and psychological changes that can impact their cognitive abilities and learning processes, including decreased sensory acuity, processing speed and changes in memory function (Fung & Lehmborg, 2016). As such, scholars have argued that adult learning differs substantially from childhood learning, thus necessitating further exploration and understanding of these differences.

Andragogy

Andragogy is defined as ‘the art and science of helping adults learn’ (Knowles, 1980, p.43). In the early 1970s, Malcolm Knowles introduced the terminology ‘andragogy’, the idea that adults and children learn differently (McGrath, 2009). Andragogy sparked a great deal of research on how adults learn. Researchers have widely supported key assumptions about adult learners and formed the foundation of the andragogy framework. These key assumptions include the following:

- Adults are motivated to learn as they experience needs and interests that learning will satisfy.
- Adults’ orientation to learning is life centred.
- Experience is the richest source for adults’ learning.
- Adults have a deep need to be self-directing.
- Individual differences among people increase with age (Knowles et al., 2020, p.22).

These key assumptions reflect the andragogy approach, which places significant emphasis on self-directed learning and intrinsic motivation (Knowles, 1980; Knowles et al., 2020). Self-directed learning, which involves individuals independently identifying learning requirements, setting objectives, identifying the necessary human and material resources, and assessing the results of learning efforts without external assistance, is a crucial concept within andragogy and is often considered a hallmark of adult education (Knowles et al., 2020; Mezirow, 1985). Moreover, intrinsic motivations are considered a powerful force that drives adults to take ownership of their learning experiences (Knowles et al., 2020). As such, andragogy, with its focus on self-directed learning and intrinsic motivation, acknowledges adult learners' unique characteristics and needs.

However, one of the criticisms of andragogy is that it focuses solely on individual learners and disregards social agendas or the context in which learning occurs (Merriam et al., 2007). For instance, Merriam et al. (2007) argue that andragogy does not adopt a critical paradigm of adult learning, stating,

Knowles’ reliance on humanistic psychology results in a picture of the individual learner as one who is autonomous, free, and growth oriented. There is little or no awareness that the person is socially situated, and to some extent, the product of the

sociohistorical and cultural context of the times; nor is there any awareness that social institutions and structures may be defining the learning transaction irrespective of the individual participant (p.88).

As such, paying less attention to the context in which learning occurs is one of the criticisms, highlighting the need for a more critical perspective on adult learning that considers the broader social structures and institutions that influence learning. This may align with one of the implications of this thesis, emphasising the significance of considering the broader social context when examining adult learning.

Other critical and feminist theoretical views perceive that andragogy represents a white middle-class individual learner disregarding society's inequality in gender or ethnicity that is prevalent among some societies (Sandlin, 2005). Additionally, some scholars have critically viewed that the prevalence of a North American perspective is noticeable in andragogy, as other global cultures possess learning styles that are more collaborative and based on practical experience (Findsen & Formosa, 2011). Nevertheless, andragogy continues to be a widely discussed concept in scholarly literature as an educational practice of adult learning (Knowles et al., 2020).

Geragogy and critical geragogy

The article by Lebel (1978) introduced the concept of geragogy as an educational approach specifically designed for older adults. The emergence of geragogy recognises the characteristics of older adults' learning in terms of their needs, motivation and benefits distinct from those of children and younger adults. This is because learning can assist older adults' changing circumstances, including retirement, physical strength, and health, particularly using the increased free time (Bass, 1986). Therefore, music learning can be a valuable means of assisting older adults in navigating their changing circumstances.

Formosa (2012a) identifies three perspectives on the benefits of learning in later life: transformative, humanistic and transcendent perspectives. From a transformative perspective, learning can assist in adjusting to changes in older adulthood, such as achieving the 'liberation of elders' (Formosa, 2012a, p. 386) and empowering them with the

necessary skills and knowledge to counteract societal and financial disadvantages. From a humanistic perspective, late-life learning can be a personal quest and necessary for older adults to fulfil their potential. It recognises the intrinsic value of learning as a means for personal growth, self-actualisation, and achieving individual goals and aspirations. Finally, from a transcendent perspective, learning enables them 'to know themselves as "whole" persons' (Formosa, 2012a, p.386). It provides opportunities for introspection, self-reflection, and contemplation on life's meaning and purpose, which may have been overshadowed by the busyness of younger years. Formosa's perspectives highlight learning in later life with the potential to empower older adults, enable personal growth, and facilitate a deeper understanding of self and life's meaning.

Other studies illustrate that older adults can be characterised by the specific needs and purposes of pursuing their learning in later life. Martin (2002) suggests that learning at an institution such as a retirement institute contributed to participants achieving personal growth, self-esteem, contribution, and empowerment. Duay and Bryan's (2008) qualitative study to explore the perceptions of older adults on learning experience suggests that older learners are highly self-directed and interested in learning. However, they point out that motivation in learning is highly associated with a solid educational background, and the subjects they choose to learn are areas in which they have some basis of knowledge or that are pertinent to them.

While geragogy emphasises the unique learning needs and characteristics of older adults, rooted in self-directed learning and older adults' life experiences, the existing literature has been criticised for its focus on well-educated, middle-class individuals from dominant ethnic groups, its emphasis on positive effects, and its frequent oversight of the diverse and potentially oppressive experiences of older adults (Formosa, 2012b). In response to these gaps, critical geragogy emerged as a transformative approach to older adult education, drawing from critical pedagogy and social justice principles. Battersby (1987) characterises critical geragogy as 'a liberating and transforming notion' (p.7), promoting collective learning and teaching principles. Furthermore, Glendenning and

Battersby (1990) argue that the core objective of critical geragogy is to empower older individuals and instil in them the belief in their potential to effect significant change within their communities and society at large. Hence, critical geragogy encourages a reflective stance, enabling both learners and facilitators to assess the appropriateness of the content, strategies, and social and political dimensions of learning in later life (Formosa, 2012b).

In sum, exploring older adults as learners have shed light on the evolving landscape of education for this demographic. With an increasing emphasis on lifelong learning and recognising the disparities between learning in adulthood and older adulthood compared to childhood, it becomes evident that a distinct teaching and learning theory is essential to cater to older adults' unique characteristics and needs. Andragogy, a well-established approach, focuses on principles such as self-directed learning and intrinsic motivation. However, it has faced criticisms for neglecting the broader social context and issues of inequality. Geragogy, introduced as an educational approach tailored to older adults, acknowledges their distinct needs and motivations. It highlights the transformative, humanistic, and transcendent perspectives on learning in later life, emphasising personal growth and self-actualisation. However, critical geragogy has emerged as a transformative approach. It seeks to empower older adults by challenging ageist social structures, adopting a communal approach, and encouraging reflection on the appropriateness of content, strategies, and social and political dimensions of learning in later life. Critical geragogy is a promising path forward, offering the potential for social transformation, empowerment, and a more equitable and inclusive society for older individuals.

All three approaches, andragogy, geragogy, and critical geragogy, share some features that recognise the potential for later-life learning to be driven by self-motivation, less reliant on the instructor, more applicable to real-life experiences, and the potential for transformative and empowering. These shared characteristics hold significance for music learning in older adulthood, which aligns with the focus of this thesis: to explore how older adults perceive and engage with music learning in the digital age. By examining how older

adults make sense of their lived experiences in learning and playing music, this thesis aims to shed light on the experiences of music learning for older adults.

2.3.2.2 Music Learning in Older Adulthood

As discussed in the previous section, scholars have argued that learning in later life might have distinct features compared to learning in childhood or younger adulthood. This is because the changes in physical and cognitive abilities, including the decline of physical and psychomotor skills and deterioration of vision, hearing, or both, can cause unique challenges for older adult music learners as well as the life transition accompanied by ageing (Bruhn, 2002; Gembris, 2012). All such issues suggest that older adults may need special accommodations, including individual music stands, enlarged music notations, and instruction in short sessions to avoid fatigue (Coffman, 2009; Hallam et al., 2013). Additionally, the approach to teaching and learning may need to be adapted to account for these changes (Boulton-Lewis, 2010; Duay & Bryan, 2008; Edosomwan, 2016).

While the concepts of andragogy and geragogy inform learning and teaching models for adults and older adults, there has been a growing recognition of the need for specialised music education programmes designed specifically for older adults (Laes, 2015). Consequently, researchers have called for becoming more sensitive to music education in later life, which needs to be tailored to older adults' learning dispositions, abilities, interests, and values (Jorgensen, 2008). As such, studies have worked towards considering music learning in old age. For instance, in Laes's (2015) article, the term 'later adulthood music education' is used 'to name a growing field and to find equivalence with an already established concept of early childhood music education' (p. 53). In the purpose of making a distinction from adult music education, Jorgensen (2008) mentions that Gembris (2008) introduced the term 'music geragogy' to describe older adult music education in the book *Musik im Alter* [Music in Old Age]. While specific frameworks or theories associated with music education in later life are yet to be established, the introduction and discussion of

such terms in the literature highlight the growing importance and significance of music education for older adults.

While the research focused on the everyday uses of music or musical preferences rather than exploring learning music and instruments (Dabback & Smith, 2012; Perkins & Williamon, 2014), those studies on instrumental music learning in older adulthood which do exist reveal two main topics, firstly, the cognitive benefits of learning music, and secondly, musical motivation.

Cognitive benefits of learning musical instruments in older adulthood

Learning a musical instrument has been shown to significantly impact cognitive abilities in older people as it is a multimodal activity that involves multiple sensory inputs and the integration of attention, fine motor control, memory, and emotional processes (Guo et al., 2020; Herholz & Zatorre, 2012; MacRitchie et al., 2020). Bugos et al. (2007) and Seinfeld et al. (2013) utilised experimental design to explore the effects of piano lessons on older adults' cognitive function. Bugos et al.'s (2007) study used a randomised control design and found that Individualised Piano Instruction (IPI) positively impacted attention and working memory in the experimental group. IPI was an extensive music education programme, requiring participants to attend a half-hour piano lesson each week and practice independently for at least three hours per week. Since data were collected at three time points: before the training, after six months of intervention, and following a three-month delay, the authors claim that the potential cognitive benefits of IPI could be sustained over time.

A study by Seinfeld et al. (2013) examined the impact of four-month group piano lessons and found that their participants showed improved cognitive abilities, such as attention and executive function, as well as affective states, such as mood, subjective well-being and quality of life. Unlike Bugos et al.'s study (2007), it compared a piano group with a control group who participated in different leisure activities such as sports, painting and yoga, the intention being to validate the specific effects of specific musical training. As such, Seinfeld et al. (2013) highlight the distinct features of piano learning and how 'learning to

map visual information from musical notation to a motor response that produces a sound' (p.11) appears to have a positive impact on participants' cognitive function and affections. Interestingly, participants of both studies (Bugos et al., 2007; Seinfeld et al., 2013) were musically uninformed individuals, suggesting that the cognitive effects of learning the piano are separate from the previous musical training experience.

Another study by Iannarilli et al. (2013) suggests that musical training in early life might prevent the deterioration of rhythmic ability in later life. The study found that music professionals did not show the same age-related decline in rhythmic ability, suggesting the potential lifelong cognitive benefits of early musical training. Furthermore, White-Schwoch et al.'s study (2013) sought biological evidence of the effects of early musical training and found that a group of participants with early musical education showed positive neural activity in the brain region responsible for processing the information, indicating that the benefits of prior music education to persist into older age. These studies collectively highlight the idea that prior music education may be more resilient to age-related declines in certain cognitive functions, suggesting a lasting impact on brain function and cognitive abilities.

More recent studies have examined the cognitive function of older adults learning musical instruments. A longitudinal study by Mansens et al. (2018) found that playing a musical instrument was associated with better attention, episodic memory and executive functions and suggested that playing musical instruments in later life is likely a potential protective factor for cognitive decline. In another study, MacRitchie et al. (2020) also explored the impact of a ten-week piano training programme on healthy older adult novices' cognitive and motor skills. The study compared the piano training group with a control group, who did not participate, and found that short-term piano learning for older adults positively affected visuomotor skills. However, there was no benefit to cognitive switching, which is the ability to disengage from one task and engage in another. Another study with novice older adults (Guo et al., 2020) found that participating in a four-month instrumental learning programme using a keyboard harmonica improved their verbal memory and neural efficiency. These studies highlight that the cognitive functions associated with instrumental

training are not limited to children or younger adults (Guo et al., 2018; Moreno et al., 2011) but are also applicable to older adults. Thus, these studies provided evidence of impacts on cognitive functions that can be gained through learning musical instruments for individuals in later life. However, the studies predominantly focused on the piano instrument.

Musical motivation

Musical motivation refers to the factors that encourage individuals to engage in musical activities, whether learning to play an instrument, singing, composing, or enjoying music as listeners. Nevertheless, various factors can influence musical motivation, including personal interests, emotional connections to music, social interactions, cultural influences, and individual goals and aspirations (Hallam, 2002; Sichivitsa, 2007). Understanding motivation is a highly intricate process that necessitates a consideration of numerous interconnected factors. Hallam (2002) argues that psychological research in musical motivation has primarily focused on motivation for learning and maintaining the practice of musical instruments, as learning to play a musical instrument is typically a voluntary pursuit, often offering individuals the freedom to start and continue their musical journey. Several studies have explored motivation for engaging with musical instruments in later life.

Studies have shown that early musical experiences may significantly influence an individual's continued participation in music throughout their lifetime (Bruhn, 2002; Flowers & Murphy, 2001; Cohen et al., 2002). Flowers and Murphy (2001) assert that the musical knowledge acquired through music education classes during one's school years has an enduring impact, influencing their choices in current musical activities and shaping their opinions and attitudes. Similarly, Bruhn (2002) and Cohen et al. (2002) argue that learning music in childhood or youth and acquiring musical knowledge in earlier life inspire ongoing musical activities and inform musical preferences in later life.

In addition to early musical experiences, Taylor's study (2011b) involving older keyboard players who learn music for self-fulfilment suggests that significant changes in older adulthood, such as retirement, divorce, or the loss of a spouse or relatives, along with

encouragement from friends, served as the motivation for engaging in music. Moreover, the study suggests that older adults maintained their motivation by controlling what they learned and how they approached it, with support from influential individuals. This implies that the ability to choose what and how to learn is a crucial factor in their ongoing musical engagement. As such, older adults' motivation to engage in musical activities is influenced by the interplay between their attributes and environmental factors.

In sum, Section 2.3 reviewed the literature on music participation in later life, showing that music participation can provide physical, cognitive, and social benefits and promote well-being in later life despite age-related challenges. While 'lifelong learning' now has a firm hold in various fields of literature, learning a musical instrument in older adulthood has received significantly less attention. As discussed in the preceding sections, studies have addressed the benefits of learning a musical instrument in older adulthood, dispelling myths that older adults prefer passive musical experiences and lack the capacity for music-making. With recently obtained knowledge about the cognitive aspects of music learning, as summarised above, music-making positively affects brain activity.

While previous research has discussed the cognitive benefits of instrumental music learning and motivation in music, there remains a pressing need for an in-depth exploration of instrumental music learning and playing from the perspective of older adults who have experienced a significant life transition: retirement. Understanding their values, meanings, and motivations behind participating in instrumental music learning and playing aligns with this thesis' first and third research questions (Section 1.3):

RQ1) Why and how do older adults take part in learning to play musical instruments after retirement?

RQ3) What are older adults' perceived impacts of group learning and playing musical instruments on the lives of older adults after retirement?

These questions guide the inquiry into older adults' musical engagement during retirement, shedding light on their motivations and the impacts of group learning and musical participation on their lives.

Moreover, studies on instrumental music learning are likely to focus on the keyboard or piano (Bugos et al., 2007; Flowers & Murphy, 2001; Guo et al., 2020; Jutras, 2006; Seinfeld et al., 2013). Thus, researching a wider range of musical instruments beyond the keyboard and piano will significantly contribute to understanding music participation in later life. With a broader picture of music learning for older adults in mind, the following section reviews the literature on the potential for music technology for older adults in tandem with the development of digital technologies.

2.4 Music Technology and Older Adults

Previous studies have offered insights into the meaning and role of technology in our musical experiences. Finney and Burnard (2007) note that 'technology/instruments are the very tools that mediate in the reception and consumption of music, along with its making and production' (p.2) and Creech (2019) describes music technology as 'electrical or digital tools to select, listen to, create, manipulate, analyse, or record musical sounds' (p. 3). Considering the contemporary landscape, where people are increasingly interconnected through digital means, such as smartphone ownership, access, and social media usage (Vogels, 2019), studies have begun to explore how those new technologies influence people's musical experience. As such, the following sections review research concerning digital technology use in a musical context and consider the technology adoption models, which are often discussed studies to study the factors that influence the rate and extent of adoption of new technologies. After that, the review concludes that despite the growing interest in the topic, there is limited research on the use of music technology concerning older adults' musical participation.

2.4.1 Changing Scenery of the Use of Music-related Technologies

In tandem with the increasing digital technology use in the past decades (Silver, 2019; Vogels, 2019), technology has influenced various aspects of music, including music education and practices. Much of the research has focused on the impacts and the role of music technology in classrooms, as well as the types of music technology used in school music education (Finney & Burnard, 2007; King et al., 2017; McPherson & Welch, 2018; Ruthmann & Mantie, 2017). The definition of 'music technology' can differ slightly depending on the context, encompassing a range of tools such as portable mini audio recorders or Musical Instrument Digital Interface (MIDI) controller systems attached to musical instruments, downloaded software like 'Garage Band'⁴ and music tutorial websites. Moreover, given the rapid changes and advancements in digital technologies, it can be challenging to categorise music technology into a single type.

The broader context of music in human history suggests that technology does not denote merely cutting-edge electronic tools. Himonides (2012) proposes to see music technology from a meta-perspective view 'as a means enabling us to become better musicians; understand music and/or the broader impact that music has on our lives and ongoing development become better musicians' (p. 437). While the proliferation of digital tools and platforms has made it easier for musicians to create and distribute their work, transforming the way people consume music, it is clear that music technology cannot be confined to specific tools; instead, it is a broad and evolving field that encompasses a wide range of technologies and their impact on our musical experiences.

Purves (2012) introduced a concept called 'intermediate technology' to music education, drawing on the economist E. F. Schumacher's concept of simpler, cheaper, yet still efficient agricultural tools. Purves (2012, p.464) applied this concept to music classrooms, addressing that simpler, cheaper and more accessible technologies were often easier to apply to teaching and learning practices as opposed to wholesale, commercial

⁴ GarageBand is a series of digital audio workstations created by Apple Inc. for macOS, iPadOS, and iOS devices and provides users with the ability to produce music or podcasts. (<https://en.wikipedia.org/wiki/GarageBand>).

technology installations. Purves (2012) highlights the significance of such technologies, arguing that 'it is in the adoption, adaptation, and augmentation of such 'small tools' into the everyday practice of music teachers that is likely to have a powerful impact on teachers' professional practice in the long term' (p.464). This concept of intermediate technology suggests the importance of accessibility and affordability in music education technology, making it more inclusive for both teaching and learning practices.

While music technology encompasses a wide range of technologies that continue to evolve and shape people's musical experiences, the following sheds light on scholars' perspectives and provides insights into how digital technology has shaped and transformed the landscape of music in recent years.

Development of Digital Technology. Turning to the increasing prevalence of digital technologies, they have conceptualised music technology as an open-ended continuum. Tuuri and Koskela's (2020) theoretical discussion on the relationship between technology and musicality highlights that 'technology is already an integral part of the development of humanity for so long and in so fundamental a way that it is difficult to conceive a world, and humanity without technology' (p. 2). They perceive technology and music in human history from a co-evolutionary perspective and argue that emerging technologies have transformed musical experiences. They state:

[...] in order to understand musicality, or musical mind, it is necessary to better understand our coevolutionary relationship with the instruments (i.e., any music-related technologies, becoming embedded and embodied in our lifeworld, inevitably constitute and transform musical practices, skills, and ways of making sense of music (p.2).

Research also points out that technological advances and digitisation in past decades have radically changed many aspects of our music experience. For instance, music has become much more accessible, so people can now listen to the music they choose from anywhere (Delello & Mcwhorter, 2017). Moreover, technological advances such as tablets, smartphones and MP3 players have enabled people to integrate music into everyday lives more easily. Krause et al. (2015) found that participants of their study in Scotland, whose

ages ranged from 17–75 years, were regularly engaged in music, on average one hour per day, using various devices such as radio, mobile MP3 players and computers. Given this fact, they argue that people's musical tastes have become increasingly individualised. Likewise, research highlights those psychological variables, such as innovativeness, an individual's willingness to try new things and adopt new technologies, and self-efficacy in technology use, which are associated with everyday music listening practices (Krause & North, 2016). Furthermore, studies suggest that technical knowledge and capabilities are relevant to broader musical tastes, greater ubiquity, and accessibility of musical experiences (Avdeeff, 2012; Heye & Lamont, 2010). These studies contribute to the growing body of evidence highlighting the significant impact of technological developments on the music experience.

Indeed, the development of digital technology has transformed how people experience music. One significant development was broadcasting and reproducing music (Gouzouasis & Bakan, 2011). Gouzouasis and Bakan (2011) illustrate a segment of people's music experience in the 20th century as 'a century when humans began it by sharing music making in the innocence of their front porches and firesides and ended in downloading MP3, Shockwave, LiquidAudio, and RealAudio files' (p.2). Further examining the music industry from the perspective of music consumers and corporations, Kot (2009) critically analysed changes in the music industry between 2000 and 2009 and claimed that the rapid change in the landscape of the overall music industry resulted in transforming how music was created and shared, such as encouraging artists to directly produce and distribute their music amidst the increasingly digital media environment. However, it also presented challenges, including issues surrounding file-sharing and copyright infringement, brought about by the internet and digital technology within the music industry.

Wireless and Portable Personal Devices. Meanwhile, the advent of Web 2.0⁵ technologies and the dissemination of wireless and portable personal devices such as smartphones and tablet devices have revolutionised the field of digital music practice, making it more accessible to a broader audience. One of the significant implications of this development is the emergence of music software programs or applications (apps) that run on such devices (Gouzouasis & Bakan, 2011; Tuuri & Koskela, 2020). Gouzouasis and Bakan (2011) delineate four categories of music apps: 1) music education tools that provide chord charts, scores, fake books, training programs, and lessons; 2) music toys and games that provide a 'musicky'⁶ experience; 3) music tools that provide instrument tuning, as well as recording and editing platforms; and 4) virtual music instruments (p.3). Scholars agree that music-related apps have profoundly influenced the landscape of music-making in the formal and informal learning environments both in and outside schools (Gouzouasis & Bakan, 2011; Jones, 2013; Tuuri & Koskela, 2020; Wise et al., 2011). Overall, the rapid dissemination of portable personal devices with the wireless network and the emergence of music-related apps have generated digital music practice, reshaping the music-making landscape (Kim et al., 2021; Krause & North, 2016; Magaudda, 2021).

YouTube. Music education and YouTube are research areas that have been increasingly discussed in the past decades. YouTube is one of the well-known digital media platforms launched in 2005 with the aim 'to remove the technical barriers faced by non-expert users who wanted to share video on the web' (Burgess & Green, 2018, p. 2). Since its emergence in the mid-2000s, YouTube has taken a dominant position in the media environment (Wise, 2022). As of 2022, YouTube is the second most popular website in the world after Google, becoming the most prominent video site, with over five billion videos watched daily around the globe (Wise, 2022).

⁵ The term 'Web 2.0' was created to distinguish the internet era after the dot-com bubble, which placed greater emphasis on social networking, user-generated content, and cloud computing from the earlier era. The '2.0' suffix was chosen to signify a new and improved version, following common software naming conventions. The term originated from a series of Web conferences organised by publisher Tim O'Reilly in 2004 (Hosch, 2017).

⁶ According to Gouzouasis and Bakan (2011), 'musicky experience' refers to digital platforms and software, including music toys and games, that offer music experiences to non-musicians.

Studies have delved into the impacts of social media platforms on music consumption and music education practices. Cayari (2011) argues that the increased use of YouTube affects music creation and consumption and generates 'the idea of amateur and professional musician, musical venue, and audience member is being changed through YouTube' (p.1). In light of these changes, Cayari restates Collins and Halverson's (2009) suggestion of moving away from traditional classrooms and suggests the potential for YouTube as a tool for learning music informally and consuming, creating and producing music. Similarly, Jones and Cuthrell (2011) point out the instructional potential of video technology, which can be a valuable tool in educational settings, providing access to a wide range of resources.

Studies have discussed the benefits of YouTube videos as a tool for music education, emphasising the multimodal aspect, which allows learners to engage in auditory and visual learning processes (Mayer, 2020). Burgess and Green (2009) also note that YouTube's rich musical offerings are significant strengths for self-motivated adult learners who are often characterised as self-motivated learners. Additionally, Kruse and Veblen (2012) analysed the characteristics of musical instrument instructional videos on YouTube. They found that many music learning videos were geared towards beginners with instructors' aural reinforcement, modelling, technique-based instruction, and physiological prompts, which fostered new ways of learning music. Waldron (2013) perceives that YouTube videos act as vehicles of agency to promote and engage participatory culture, fulfilling a significant teaching role. By examining the Banjo Hangout online community⁷, it was found that YouTube's music learning resources facilitated self-directed music learning at home and participatory music-making with others by sharing videos in an online community. Waldron's findings closely align with Burgess and Green's (2018) arguments that YouTube is a site of participatory cultures that promotes and engages participatory culture and offers the potential for collective learning.

⁷ www.banjohangout.org/

In further considering the potential of YouTube as a platform for music learning and education, Zhukov (2015) explored the adoption of YouTube for instrumental learning in higher education and observed that students were turning to technology-assisted approaches, such as YouTube. The author states:

Students appear to be turning away from the traditional model of master/apprentice instrumental learning (i.e., relying on teacher help) to technology-assisted approaches (YouTube). Even amateur YouTube postings could serve an educational purpose by highlighting technical difficulties of the work (p. 73).

Moreover, Marone and Rodriguez (2019, p.2) report that instructional content by 'teacher-celebrities' in YouTube videos generates a unique learning environment that challenges the traditional understanding of music teaching and learning. DeWitt et al. (2013) investigated the benefits of using YouTube for teaching and learning in the performing arts by synthesising twenty experts' opinions. Their findings suggest that YouTube can facilitate both teachers' and learners' innovation and creativity, supporting YouTube's potential as an instructional medium in music education. These findings were corroborated by a later study by Hanson (2018), who found the quality of instrumental music tutorial videos for beginners satisfactory, which can supplement traditional instruction. As such, studies have discussed the potential of social media platforms, including YouTube, for learning and teaching music.

Meanwhile, using YouTube as a platform for learning music presents a range of challenges that must be considered. One of the most significant issues is the variability in the educational quality of the content available. There are arguments that those instrumental music tutorial videos might promote misleading information and could confuse some learners. For instance, Miller (2012), Whitaker et al. (2014), and Kruse and Veblen (2012) point out the inconsistency of pedagogical methods presented by non-professionals in instrumental music tutorial videos. Schmidt-Jones (2021) is also concerned about the lack of in-depth understanding of struggling learners and how identified barriers may affect their progress when using YouTube as an educational resource. This lack of personalised guidance and support for learners can substantially impede effective music education.

From the learners' perspective, the challenges go beyond content quality. It can be difficult for novice learners to locate appropriate resources and assess their reliability on YouTube because novice learners may need more foundational knowledge and experience to evaluate the quality of the educational materials they encounter. Schmidt-Jones (2016) highlights the challenge of resource assessment, emphasising the need for learners to develop a critical eye to distinguish between reliable and subpar sources. Therefore, these challenges highlight the need for a well-informed approach when using YouTube as a platform for music education.

For studying the impact of social media on music practices, Burgess and Green (2018) reflected on their doubts about treating YouTube as a subject of study when they wrote their first edition of the book *YouTube: online video and participatory culture* (2009).

They state:

Writing a whole book about a single platform (rather than, say, a medium or sub-sector of a media industry, like television) was at best a novel thing to do; at worst, it looked like a mistake that risked capture by a particular corporate brand, resulting in a failure to attend to the historical and political forces behind it. (Burgess & Green, 2018, p. 13).

Furthermore, the authors recognise the methodological challenges, including the constantly changing video content and organisation and the vast and diverse archive of video content. While methodological challenges in studying YouTube persist, it is evident from the literature that YouTube has a significant impact on music practices. Therefore, studies suggest that further research is necessary to understand better the advantages and challenges of such online video content as an educational tool.

In recent years, there has been increasing interest regarding the potential of digital platforms to support distance learning and address psychological challenges due to the COVID-19 pandemic. Although there have been few studies on using YouTube as a music education medium during the pandemic, studies highlight the importance of reliable learning sources. For instance, Serdaroglu (2020) finds YouTube an easily accessible tool for music education but suggests that music literacy needs to select the appropriate and high-quality

material from many videos. For that, the author examined the uploaded educational content after the onset of the COVID-19 pandemic in 2020 and found the symphonic orchestras shared their expertise and educational content on their official YouTube channels, offering safe and trustworthy resources which greatly support online music education for children. Another study (Fraser et al., 2021) that examined eight cases of online music performances, including virtual choirs, orchestras, and music collaborations of various genres, found that online music engagement could facilitate social cohesion, intercultural understanding, and community resilience during the COVID-19 lockdowns. These findings reveal the importance of reliable and credible content from institutions which can enrich the musical experience and present educational material on YouTube efficiently, systematically, and practically.

2.4.2 Music Technology for Older Adults

Described as the ‘twin challenge’ (Xie, 2003), the rapidly growing older adult population and the development of new technologies such as information and communication technologies (ICTs) have brought interest in understanding the affordances and constraints perceived by older adults. Although digital technologies have the potential to provide various benefits for older adults, including enhanced social connectivity, access to health information and services, and opportunities for learning and engagement, older adults tend to be less engaged with technology than younger individuals, which raises concerns about the potential for a digital divide (Allen, 2013; Poushter, 2016). Charness and Boot (2009) state that ‘attitudes and abilities are among the most powerful predictors of technology use’ (p. 253) and suggest that normative age-related changes in ability must be considered when designing products and training programmes for ageing adults. Berkowsky and Czaja (2018) identify older adults’ barriers to effectively utilising ICTs as physical and cognitive limitations, decreased literacy, and negative attitudes towards technology.

As noted, although music technology has been shown to have the potential to enhance our musical experiences in novel ways (Himonides & Purves, 2012; Krause & North, 2016; Magaudda et al., 2021), it is argued that older adults only use new technology if

it is perceived to be relevant to them (Miquel-Romero & Montoro-Pons, 2017). Moreover, in the case of musical experiences, while the younger generation tends to explore new technologies more readily, older adults tend to rely on more familiar tools, such as radios and HiFi systems (Miquel-Romero & Montoro-Pons, 2017).

In reviewing the literature on music technology and older adults, Creech (2019) finds that the primary objectives for using technology are to access preferred music (Davison et al., 2016; Garland et al., 2007; Lancioni et al., 2014; Sixsmith et al., 2007; Vahia et al., 2017), support singing (Reid et al., 2017), music perception (Smith et al., 2017), reminiscence and collaborative playing (Belgrave & Keown, 2018; Laes, 2015; Pike, 2011), and facilitate movement (Ellis, 2004). The studies reviewed suggest that, regardless of physical ability or mental health problems, older adults can engage with technology in various music practices, such as listening, playing, or learning. Nevertheless, Creech (2019) highlights the lack of consideration for older adults' situated needs and contexts of using music technology for their music activities, indicating that despite its potential for enhancing older adults' musical experiences, it is still an understudied area with few investigations on the affordances or challenges of music perception, learning, and participation for the older population.

In some studies, music technology has been explored as a means to foster intergenerational connections. As community arts projects, an ethnographic study (Connell, 2012) found that a collaborative process of learning to perform using DJ technology and old records facilitated interaction and discussion about music between younger and older participants, thus promoting intergenerational interactions among different generations. Another intergenerational project (Belgrave & Keown, 2018) showed that virtual choir collaboration through audio-visual recordings between children's and older adults' choirs allowed cross-age interactions musically. Despite the limited time offered for this project, the study postulated that 'the use of simple and free computer technology (e.g., Dropbox, tablets, smartphones) could be a promising vehicle for communicating, learning, and

enhancing relationships between opposite generations, beyond the scope of just music exchanges' (Belgrave & Keown, 2018, p.8).

Studies have demonstrated that technology can enrich the musical experience across generations, both in formal and informal music contexts. However, further studies are needed to understand and explore the potential of digital technology in music experiences, as its prevalence and impact are evident in the literature. Moreover, existing research has been heavily focused on the younger population and music-listening activities, often paying less attention to the context of learning or playing musical instruments. Also, studies on the use of music technology for older adults are likely to highlight the efficacy of specific tools that researchers employed rather than considering the broader motivations and processes involved in older adults' engagement with musical activities using technology. This highlights the need for additional research that delves into older adults' affordances and challenges associated with engaging with music technology within diverse contexts. The following subsection focuses on existing frameworks frequently discussed in the literature to understand the motivations and patterns of technology better.

2.4.3 Technology Adoption

The literature on technology adoption has been increasingly focusing on the research topics of acquiring digital literacy and learning to use new technology, as evidenced by works of literature in psychology, information science, and human-computer interaction (Neves & Mead, 2021). Researchers have developed technology adoption models to understand motivations and patterns of technology use, which provide a theoretical framework for identifying the factors that influence individuals' decisions to adopt new technologies (Davis et al., 1989; Venkatesh et al., 2003, 2012, 2016). A related vein of technology research also expanded to the relationship between using new digital technology and learning processes in later life (Betts et al., 2017; Tsai et al., 2015). Given the relevance of this topic to this thesis on older adults' use of digital music technology, this section reviews the key technology adoption models discussed in the literature, focusing on the well-

known technology adoption models (2.4.3.1) and how those models were developed into models that provide a practical understanding of the acceptance of technology for older adults (2.4.3.2).

2.4.3.1 Technology Acceptance Models

Two models, the Technology Acceptance Model (TAM) (Davis et al., 1989) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003, 2012, 2016), are often used in technology acceptance studies which aim to explain the factors that influence individuals' use of technology (Peek et al., 2016).

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is one of the technology acceptance models (Davis et al., 1989). The model explicates that two attitudinal factors influence an individual's intention to use new technology: perceived usefulness (PU) and perceived ease of use (PEOU). PU refers to the extent to which a person believes using a particular technology is beneficial. PEOU is the extent to which a person believes using a technology is effortless (Davis et al., 1989; Chen & Chan, 2011). As such, TAM posits that PU and PEOU jointly determine attitude towards using behaviour; for instance, people who perceive technology as valuable and easy enough to use are more likely to adopt and incorporate it into their lives.

Despite its oft-use as a robust model for explaining acceptance behaviour, critiques have argued that the model overlooks interplay between personal, social, and technological contexts, neglecting 'the lived experience of technology 'appropriation' – the embodied interaction between technology and personal practices' (Neves et al., 2021, p.238). Studies that have employed TAM on older adults have found that the elements of technology acceptance, such as facilitating conditions, social supports, appropriate design (Barnard et al., 2013; Tsai et al., 2017), self-satisfaction and cost tolerance (Ma et al., 2016) are essential in shaping perceived usefulness and ease of use. In order to meet the needs of older adults, the Senior Technology Acceptance and Adoption Model (STAM) was also

developed, which has similar constructs to TAM. However, STAM highlights the importance of user context or social influence that shapes the intention to use a particular technology (Van Bommel & Renaud, 2008).

Further research has suggested that a variety of factors, such as user experience, type or sophistication of system use, or other task and user characteristics need to be considered which mediate the relationship between perceived ease of use and perceived usefulness (Bixter et al., 2019; Neves et al., 2021; Vaportzis et al., 2017). However, Lindley et al. (2017) claim that TAM is not a definitive approach to understanding the potential for acceptance since, in most cases, the complexities of socio-technical relationships are not considered. Therefore, the authors maintain that TAM-derived studies may not provide meaningful insights into older adults' experiences of technology use. Researchers have developed a combined framework that considers social contexts, actors, and technological properties.

Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) was formulated by Venkatesh et al. (2003) in an attempt to integrate the theories and research on acceptance and behaviour towards information technology into a unified theoretical model that grasps the essential elements of previously established models, including TAM. By empirically testing, Venkatesh et al. (2003) confirmed four key determinants of intention to use (performance expectancy, effort expectancy, and social influence and facilitating conditions) and four moderating influences (experience, voluntariness, gender, and age). However, to synthesise existing studies on UTAUT and its extensions, Venkatesh et al. (2012) modified the initial model to six factors, generating a more comprehensive theoretical model to predict and evaluate an individual's acceptance of information technology. The definitions of six factors are delineated in Table 3.

Table 3*Constructs of UTAUT and Definitions*

Constructs	Definition
Performance Expectancy	The degree to which using technology will provide benefits to consumers in performing a certain activity
Effort Expectancy	The degree of ease associated with consumers' use of technology
Social Influence	The extent to which consumers perceive those important others (e.g., family and friends) believe they should use a particular technology
Facilitating Conditions	Consumers' perceptions of the resources and support available to perform a behaviour
Hedonic Motivation	The fun or pleasure derived from using a technology
Price Value	Consumers' cognitive trade-off between the perceived benefits of the applications and the cost of using them
Habit	The extent to which an individual believes the behaviour to be automatic

Note. Adapted from 'Consumer acceptance and use of information technology: Extending the Unified Theory of Acceptance and Use of Technology', by V. Venkatesh, J. Y. L. Thong, and X. Xu, 2012, *MIS Quarterly*, 36(1), pp. 159, 161. Copyright 2012 by MIS Quarterly.

Research related to the UTAUT has received attention from researchers in various fields. Though limited studies are related to music, the UTAUT model has been used in music education and engagement in daily life. For instance, Zhang et al. (2021) explored the aspects of teachers' adoption of technologies. They suggested that four factors of UTAUT, performance expectancy, effort expectancy, social influence, and hedonic motivation, had an impact on facilitating teachers' technology acceptance and technology use behaviour. In another study, using a quantitative research approach, Chandra et al. (2018) found that facilitating conditions, price value and habit are influential factors for the intention to use the music streaming service application. Overall, UTAUT aims to provide a more comprehensive framework for understanding technology adoption.

2.4.3.2 An Integrated Approach to Older Adults' Adoption of Technology

The previous sections explained frequently used frameworks in the literature related to technology usage, which contribute to various factors influencing the adoption of technology innovations, such as people's attitudes, intention toward use, and actual usage.

However, the reviews of studies involving older adults hint that both models, the TAM and the UTAUT, overlook essential predictors of technology use specific to older adults, including biophysical and psychosocial factors (Chen & Chan, 2011; Peek et al., 2014). As such, various studies have sought other relevant factors among older adults, such as age, education, income, cultural background, technology self-efficacy, and life stage, to extend from the earlier models (Lee & Coughlin, 2015).

Older adults are often viewed as 'non-adopters' or 'laggards' who are apprehensive about new technologies (Demiris et al., 2004; Niemela-Nyrhinen, 2007). It has been suggested that cognitive abilities, computer self-efficacy, and computer anxiety may be crucial in mediating technology adoption in the older adult population (Czaja et al., 2006). Nevertheless, Coughlin (2010) advocates that older adults have the potential to benefit from the successful development and integration of technology for their quality of life. Moreover, research indicates that older adults are aware of technological benefits and are willing to adopt new technology when the usefulness and value of products are met to their satisfaction (Demiris et al., 2004; McClosky, 2006; McCreddie & Tinker, 2005).

As discussed in Section 2.4.3.1, studies based on the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAU) often address a need for exploring factors more thoroughly, particularly for an older population. In that regard, the work of Lee and Coughlin (2015) reviewed findings from existing literature and suggested that the factors of older adults' adoption of technology 'span not only physical design and individual characteristics but also social settings and delivery channels [...]' (p. 749). The authors identified ten factors influencing older adults' perceptions and decisions around adopting and using technology, including value, usability, affordability, accessibility, technical support, social support, emotion, independence, experience, and confidence, as presented in Table 4 (Lee & Coughlin, 2015).

Table 4*Factors of Older Adults' Technology Adoption*

Factor	Description
Value	Perception of usefulness and potential benefit
Usability	Perception of user-friendliness and ease of learning
Affordability	Perception of potential cost savings
Accessibility	Knowledge of existence and availability in the market
Technical support	Availability and quality of professional assistance throughout use
Social support	Support from family, peers, and community
Emotion	Perception of emotional and psychological benefits
Independence	Perception of social visibility or how a technology makes them look to others
Experience	Relevance with their prior experiences and interactions
Confidence	Empowerment without anxiety or intimidation

Note. Reprinted from 'Older adults' adoption of technology: An integrated approach to identifying determinants and barriers', by C. Lee and J. F. Coughlin, 2015, *Journal of Product Innovation Management*, 32(5), p.750. Copyright 2014 by Product Development & Management Association.

The identified factors consider not only attributes of older adults' characteristics but also social settings and delivery factors such as affordability, which relates to distribution and pricing. Overall, the identified factors suggest a more integrated approach to older adults' technology adoption, which can be effectively considered in various types of technology to enhance older adults' experience with technologies.

Studies on technology acceptance among older Korean adults, particularly baby boomers, have gained significant attention. Baby boomers in Korea experienced rapid industrialisation during their twenties to forties. Some encountered computers and PC-based Internet during their middle years, followed by the smartphone-based mobile revolution during their retirement or late middle age (Jang et al., 2015). Consequently, a growing interest has been in exploring technology acceptance, specifically among the baby boomer

generation (Kim et al., 2022; Kim & Han, 2022). For example, building upon Lee and Coughlin's (2015) factors influencing older adults' technology adoption, Kim and Brady (2019) conducted a phenomenological study on the acceptance of ICT technology among baby boomers. Their findings indicate that while the influence of ageing on technology acceptance was evident, ecological factors such as family, community, and society were closely intertwined with the baby boomers' willingness to adopt the technology. Moreover, other studies have highlighted the importance of cultivating digital literacy driven by perceived values (Kim et al., 2022; Kim & Han, 2022). These findings emphasise the need for a holistic approach when addressing acceptance among older adults, recognising the significance of social and cultural influences in shaping their attitudes and adoption of technology.

In sum, various frameworks related to technology adoption, including the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), have been widely used in the literature to understand individuals' technology adoption. However, these models have limitations in the context of older adults, as they do not account for their unique needs and challenges (Chen & Chan, 2011; Peek et al., 2014). For instance, biophysical and psychosocial factors, such as declining physical and cognitive abilities and lack of self-efficacy and confidence with new technology, can affect their technology adoption. Additionally, cultural background and life stage also play a crucial role in shaping their attitudes and behaviours towards technology adoption. To address these limitations, scholars have suggested a more comprehensive and integrated approach to technology adoption that considers many factors beyond traditional frameworks. For instance, Lee and Coughlin (2015) identified ten factors influencing older adults' perceptions and decisions around adopting and using technology, suggesting considering physical, psychological, and social factors that influence technology adoption among older adults.

Given the relevance of these technology adoption models to this thesis on older adults' use of digital music technology, these models may allow for a more nuanced

understanding of the various factors that influence older adults' perceptions and interpretations of their musical experiences using digital technology. Therefore, this thesis aims to provide a comprehensive understanding of the lived experiences of using digital music technology for music participation among older adults, considering a wide range of factors influencing technology adoption in this demographic.

2.5 Conclusion of Literature Review

Motivated by the growing population of older adults, the increasing interest in the impacts of music participation in later life, and the expanding influence of digital technology, this thesis explores the lived experiences of learning and playing musical instruments in the digital age. This chapter provided a comprehensive overview of theoretical concepts, frameworks and empirical studies on the topics of ageing, music learning and participation among older adults and digital music technology use. In situating this thesis within literature surrounding learning and playing musical instruments, many related threads have been explored with discourses drawn from fields such as education, psychology, gerontology and information systems. Three broad themes emerged in investigating how older adults perceive and engage in learning and playing musical instruments in the digital age.

First, with increasing life expectancy and the growing number of older populations, ageing has brought a global and academic imperative to view ageing from a more optimistic perspective rather than the traditional frail paradigm. This movement has challenged the negative stereotypes of old age manifested as the inevitable and has encouraged various perspectives on what it might mean to age in modern societies. Various notions such as successful, active, optimal, and healthy ageing have emerged to capture this idea. Moreover, in an attempt to respect older adulthood as 'the complex intersectionality of ageing and the importance of recognising and responding to extremely divergent life experiences' (Kydd et al., 2018, p. 117), the third age emerged in order to denote a stage of later life between 65 and 70, where many older adults retire from full-time work in many

societies. Given that, literature has highlighted the need for a more positive and diverse perspective on ageing, and the emergence of new concepts, such as the third age, reflects this shift in thinking. This change in perception can have significant implications for how we view and treat older adults in society. As such, much literature calls for research on this stage of older adulthood, leading to various social and psychological consequences.

Secondly, with respect to older adults' musical participation, a plethora of research has explored the positive effects of singing, listening to music, and community music participation, as well as the benefits of music learning on social, cognitive, and mental well-being. However, there has been limited research on instrumental music experiences for older adults, as musical instruments are considered less accessible and challenging to learn. Research that focused on older adults' participation in instrumental music found positive social, emotional, and cognitive effects through community music-making (e.g., Coffman, 2009; Creech et al., 2013) and learning keyboards (e.g., Pike, 2011; Taylor & Hallam, 2008), indicating the potential for enhancing health and well-being through instrumental music participation. Since research on musical instruments has focused on learning the keyboards and participating in music ensemble as amateur musicians, there is a need for further research on the impacts of learning and playing a wider range of musical instruments for older adults to expand the understanding of the potential benefits of instrumental music participation on the older population.

Thirdly, in tandem with technological advances and digitisation in recent decades, many aspects of our music experience have radically changed. New digital technologies have transformed how we experience, listen to, and create music, offering new opportunities and possibilities for enhancing our musical experiences (Himonides & Purves, 2012). The potential of these advances has been a subject of interest in music-related studies, which have explored how they could enhance our perception, learning, and participation in music. Although the literature has argued that older adults only use new technology if it is perceived to be relevant to them and tend to stick with familiar tools such as radio and HiFi (Miquel-Romero & Montoro-Pons, 2017), the increasing use of the Internet and smartphone call for

research focusing on the experiences of using music technology among all age groups, including older adults. Recent literature reviews admit that using music technology for older adults remains an under-researched area, with limited studies exploring the affordances and challenges related to their musical perception, learning, and participation (Creech, 2019). Therefore, research on the motivations and engagement process of older adults with digital music technologies is necessary to fully understand the potential of these advances and their role in shaping musical experiences.

Based on the literature reviewed in this chapter, a knowledge gap was identified in understanding the nuances and subjective meanings of music learning and participation among retired older adults, especially in the context of rapid development and increased prevalence of digital technologies. This knowledge gap has led to formulating the overarching research question: 'How do older adults perceive and engage in learning and playing musical instruments in the digital age? This research question aligns with the three themes that emerged from reviewing the literature on ageing, music learning and participation among older adults and digital music technology use. As shown in Figure 2, these themes in the literature review overlap and contribute to the constituent research questions presented in the previous chapter (Section 1.3), which are RQ1) Why and how do older adults learn to play musical instruments after retirement? RQ2) How do older adults experience digital music technology for learning and playing musical instruments? RQ3) What are older adults' perceived impacts of group learning and playing musical instruments on the lives of older adults after retirement?

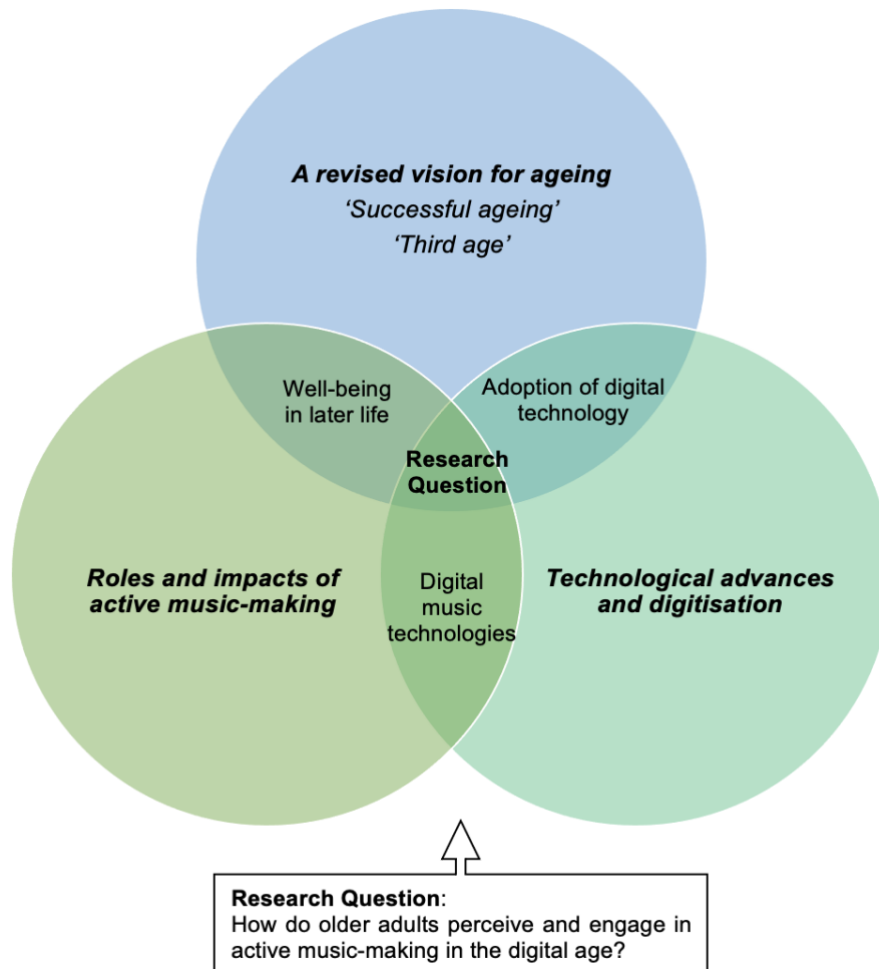


Figure 2: A Venn Diagram of Presenting the Overlapping Literature Themes

This thesis aims to contribute a more nuanced understanding of how and why older people learn and play musical instruments and use digital music technologies to participate in particular ways. By addressing these research questions, the thesis seeks to contribute valuable insights into the motivations, experiences, and impacts of music learning and participation among older adults in the digital age.

The following chapter of the thesis focuses on using Interpretative Phenomenological Analysis (IPA) as the chosen methodological approach to explore the lived experiences of older adults in music activities. IPA is a qualitative research approach that allows an in-depth examination of how individuals attribute meaning to their experiences without relying on pre-

existing testing theory or predefined categories (Smith et al., 2009, p. 32). The following chapter will provide a transparent and detailed account of the research process, highlighting the steps taken to understand the participants' perspectives and experiences comprehensively.

3. Methodology

3.1 Background

This thesis aims to explore and comprehend how older adults perceive and engage in learning and playing musical instruments after retirement in the digital age. To achieve this, a qualitative inquiry approach is considered appropriate. Qualitative research offers a means to understand the human experience and the meanings attributed to it within a specific context through the analysis of textual data. Various approaches exist within qualitative research, including narrative, grounded theory, ethnography, phenomenology, and case studies (Creswell & Poth, 2018). These approaches encompass different yet interconnected epistemological and theoretical foundations (Smith, 2004), thus necessitating careful consideration in selecting the most suitable approach aligned with the researcher's interests and research questions.

Some previous studies used surveys and questionnaires to compare participants who regularly participated in musical activities with those who did not in order to explore the relationship between music and the quality of life of older adults (Coffman & Adamek, 1999; Rohwer & Coffman, 2006; Sandgren, 2009; Vanderark et al., 1983; Wise et al., 1992). One of the methodological challenges often presented in the studies of active music-making for older adults was the need for a more comprehensive assessment of the processes through which music-making is integrated into their everyday lives. For instance, Abrams (2010, p.359) suggests that integrating evidence from both 'scientific dimensions' and 'artistic dimensions' can enrich our understanding of research subjects. DeNora and Ansdell (2014) call for studies on how music operates in specific contexts. They articulate that,

We think that too much important information is lost when music is forced into the 'before/after', 'yes/no' discursive grid of variables and outcome assessments because this grid limits the ways we can see health, music and the processes by which things get 'better' [...]. It is time to reflect on how conditions of being in illness

or health are instable and temporally variable, and therefore also to reflect on how it is unrealistic to attempt to measure health-states through any simple set of indicators (pp.4-5).

Warran et al. (2019) argue for the significance of adopting comprehensive and context-sensitive approaches that capture the intricate and multidimensional nature of participants' musical experiences.

This thesis seeks to qualitatively explore older adults' musical experience in the context of the rapid growth of using digital technologies. Various research approaches could be considered, but grounded theory, which aims to generate and develop theories grounded in data, was not deemed appropriate to address the research questions for this thesis. Grounded theory is typically more suited to creating comprehensive and testable explanations of social processes or factors influencing a specific phenomenon (Creswell & Poth, 2018). Given that learning and playing musical instruments after retirement involves various human factors, it was not suitable for examining and understanding older adults' subjective experiences of their musical engagement, including their motivation, group learning context, individual practice, and use of digital technology.

While thematic analysis (Braun & Clarke, 2021) was initially considered a viable method for collecting and analysing data, it is regarded as a method rather than a methodology that entails a theoretically informed framework for the research. Thematic analysis is known for its all-around approach and flexibility, allowing for both inductive and deductive analyses of collected data (Braun & Clarke, 2021; Langdrige, 2007). Nonetheless, Interpretative Phenomenological Analysis (IPA) was ultimately chosen as the methodology to ensure a theoretically informed framework for this research. Unlike thematic analysis, which allows for flexibility in inductive and deductive approaches (Braun & Clarke, 2021; Langdrige, 2007), IPA is concerned explicitly with 'understanding the first-person perspective from the third-person position, so far as is possible, through intersubjective inquiry and analysis' (Larkin et al., 2011, p. 321). This approach aims in-depth analysis of

how participants make sense of their experiences and how I, as the researcher, understand their accounts and meanings from their points of view.

IPA has gained popularity as a methodological approach in music education research, particularly in studies employing phenomenological inquiries. (Joubert & Van der Merwe, 2020). While the number of studies focusing on older adults is limited, research utilising IPA has explored the experiences of older adults in group singing (Li & Southcott, 2012; Warran et al., 2019) and learning musical instruments (Joseph, 2018; Perkins & Williamon, 2014). These studies have delved into the rich narratives and lived experiences, contributing to a deeper understanding of their engagement with music in later life.

The following sections provide the ontological and epistemological foundations of Interpretative Phenomenological Analysis (IPA) and a detailed account of the data collection and analysis.

3.2 What is IPA?

Interpretative Phenomenological Analysis (IPA) is an experiential qualitative methodology concerned with understanding personal lived experiences and their impact on individuals, allowing them to make sense of their experiences (Smith et al., 2021). This sense-making is vital because it provides a detailed interpretation of participants' narratives, allowing researchers to understand how they make sense of their lives. IPA was initially introduced by Jonathan Smith in 1996 as a distinct qualitative approach to the psychology field, particularly in cognitive, social, and clinical psychologies in which quantitative and experimental methodologies were seen to be predominant (Smith, 2004). Since then, IPA has been developed to employ in-depth qualitative analysis and adapted to other disciplines, such as health and social science. It has become a widely used qualitative approach in psychology and many other disciplines worldwide (Cassidy et al., 2011; Smith & Osborn, 2015; Tuffour, 2017).

While providing practical and comprehensive guidelines, Smith (2004) advocates that IPA is accessible and can be adapted by researchers. This means that IPA does not force researchers to follow the guidelines strictly. Indeed, while Smith et al. (2021) offer detailed and comprehensive procedural guidance on conducting IPA research, they also point out the potential for adaptation depending on the researchers' aims and questions. Using an inductive approach, IPA is deemed suitable to study participants' perceptions and understandings of the 'particular' experience, allowing themes to emerge during analysis. With IPA, the experience indicates a significant phenomenon which participants can reflect on cognitively and make sense of. One of the central tenets of the IPA is that people are both 'physical and psychological entities' and that as they 'do things in the world, they reflect on what they do, and those actions have meaningful, existential consequences' (Smith et al., 2021, p. 28). Thus, IPA allows the analysis of copious data and the uncovering and comprehending the meanings of participants' experiences.

3.2.1 Theoretical Underpinnings

IPA draws on ideas from phenomenology, hermeneutics and idiography. This section outlines the theoretical underpinnings of IPA, starting with phenomenology.

3.2.1.1 Phenomenology

Phenomenology is a philosophical approach concerned with engaging with lived experience. Phenomenologists exhibit diverse focuses and concerns, yet they commonly share an interest in exploring the human experience, especially the things that matter to us (Smith et al., 2021). Phenomenology was developed by the German philosopher Edmund Husserl in the early 20th century. Husserl provided a systematic account of phenomenology (Husserl, 1931). One of his statements involves 'go [ing] back to the things themselves' (Smith et al., 2021, p. 1). This means phenomenology attempts to uncover the essential components of experiences (Husserl, 1931; Smith et al., 2021). Thus, the fundamental focus

of phenomenology is to gain 'a deeper understanding of the nature or meaning of our everyday experiences' (van Manen, 2016, p.9).

Husserl (1931) developed a phenomenological method of reduction, which aims to identify the core structure and features of human experience. There are two types of reductions: 'eidetic reduction', which involves attending to practical and emotional features of experience in lived experience, and 'transcendental reduction', which looks at the nature of consciousness *per se* that makes possible participants' consciousness of anything at all. Husserl further suggested that when conducting a phenomenological inquiry, the sequence of reductions requires the researcher to 'bracket' or lay aside prejudices or preconceptions in order to focus on what is the essence of the subjective experience of a given phenomenon (Smith et al., 2021). Here, Husserl (1931) describes the phenomenological standpoint, which considers the need for bracketing preconceived notions to understand experiences better.

At the phenomenological standpoint, acting on lines of general principle, we tie up the performance of all such cogitative theses, i.e., we 'place in brackets' what has been carried out, 'we do not associate these theses' with our new inquiries; instead of living in them and carrying them out, we carry out acts of reflexion directed towards them, and these we apprehend as the absolute Being which they are. We now live entirely in such acts of the second level, whose datum is the infinite field of absolute experiences- the basic field of Phenomenology (p.97).

Given that phenomenology aims to understand how individuals experience and make sense of the world around them, phenomenological approaches want to look at the experience without the apparatus of what experimental psychology would do in terms of disconfirming or confirming existing literature or hypotheses by applying variables and determining how to look at a phenomenon (Pietkiewicz & Smith, 2014; Smith et al., 2021).

Philosophers such as Heidegger, Satre, and Merleau-Ponty integrated and expanded Husserl's work on phenomenology, contributing to a view that each person's perception of the experience is personal and varied from their own embodied perspective (Cassidy et al., 2011; Pietkiewicz & Smith, 2014; Tuffour, 2017). Their expanded ideas allowed the phenomenological stance to move toward a more interpretative position to understand the complexities of the participants' lived experiences (Smith et al., 2021).

In IPA, researchers attempt to identify personal and essential features of experiences through participants' narratives rather than generating an objective view of the experience as per predetermined classification (Smith & Osborn, 2015). As IPA explores the subjective experience, which is significant to participants, IPA suggests that people can reflect cognitively on the meaning of experiences as understood in the consciousness of participants and make sense of those experiences (Smith et al., 2021). Therefore, the meaning-making of participants through semi-structured interviews is the heart of the data-gathering method in IPA. After gathering the data, IPA involves a reflective process of the evidence gathered from participants. Husserl (1931) highlights the importance of the reflective process, stating:

Reflexion is also the title for types of experience which belong essentially together, and therefore the theme of a leading chapter of phenomenology, whose function it is to distinguish the different 'reflexions' and to analyse them completely in a systematic order. (Husserl, 1931, p.152).

As such, in IPA, the researcher needs to 'bracket' or lay aside prejudices in order to focus on the essence of the subjective experience of a given phenomenon and reflect on the participants' reflection, which creates a 'double hermeneutic circle', one of the distinct features of IPA (Smith et al., 2021). In this regard, Cassidy et al. (2011) restate Eatough and Smith's (2009) views that IPA researchers need to consider the context connected to each participant's experience, stating:

IPA researchers therefore articulate phenomenological concepts through their understanding that experience is not only individually situated and based on personal biographies but also intrinsically bound up with and contingent upon relationships with others, coloured and shaped by society, culture, and history (Cassidy et al., 2011) p.265).

For this reason, in IPA research, interpretative activity is necessary to understand how participants engage in and make meanings within the lived experience by 'attempting to capture particular experiences as experienced for particular people' (Smith et al., 2021, p.11).

Since this thesis involves semi-structured interviews with participants who play and learn musical instruments after retirement in the digital age, the interviewer plays a crucial role in facilitating reflection on the investigated musical experiences. According to Smith et al. (2021), participants are considered 'experiential expert on the topic in hand' (p. 55). It is important to note that participants should have significant leeway in directing the interview toward the essence of their experience. As such, the interviewer guides the conversation and prompts reflective exploration while the interviewee shares their lived experiences and provides valuable insights.

3.2.1.2 Hermeneutics

The second theoretical foundation of IPA is hermeneutics, the theory of interpretation. Hermeneutics was initially concerned with interpreting biblical texts but later developed into a detailed analysis of texts (Smith et al., 2021). There are three influential hermeneutic theorists: Heidegger, Schleiermacher and Gadamer. Heidegger, who developed Husserl's phenomenology, postulates the need for interpretation because phenomenology is concerned with examining the things themselves as they appear to show themselves on their terms. Therefore, Heidegger wrote about 'analytical thinking' that can facilitate the process 'to make sense of that appearing' (Smith et al., 2021, p.19). Schleiermacher's position on interpretation is rather holistic, involving a combination of revealing the meaning of the text as well as the hidden intention of the writer (Cassidy et al., 2011). Likewise, Gadamer and Heidegger emphasise the relationship between 'the interpreter and the interpreted', describing this as 'a dialogue between something that is old (a before-understanding) and something which is new (the text itself)' (Smith, 2021, p.21). Therefore, the central tenet of the hermeneutic process is to ascertain the meanings of texts and to interpret hidden intentions and context if they exist.

In IPA studies, interpretative engagement is an essential component of analysis in order to investigate how participants make sense of their experience (Smith, 2009). Pietkiewicz and Smith (2014) distinguish the hermeneutic quality in the IPA approach as 'a

dynamic process with the active role of the researcher who influences the extent to which they get access to the participant's experience and how, thorough interpretative activity, make sense of the subject's personal world' (p. 8). In other words, the analysis can be a process of standing in one's shoes and making sense of what arises. Therefore, IPA operates a double hermeneutic, which moves beyond the description of phenomena, where researchers (who conduct IPA studies) attempt to make sense of participants trying to make sense of particular things (Cassidy et al., 2011; Smith et al., 2021; Smith & Osborn, 2015).

Furthermore, researchers assume a dual role in understanding the participants' experiences and interpreting their accounts. Smith and Osborn (2015) depict this feature of the dual role as 'empathic hermeneutics with a questioning hermeneutics' (p. 26). The researchers draw on the same basic human skill set as participants are doing themselves, but at the same time, researchers' sense-making is always second order. As such, researchers have to set up a situation which allows the person to give researchers his/her account as they present it. This sense-making is the heartbeat of interpretation, so it depends on the participant's sense-making to do researchers' sense-making.

In IPA analysis, the hermeneutic circle provides 'a useful way of thinking about the method for IPA researchers' (Smith et al., 2021, p. 23). By moving back and forth thinking about the data, it is suggested that the hermeneutic circle may help researchers gain a deeper understanding of the data as a whole. Smith et al. (2021) show the concept of the hermeneutic circle that operates at a number of levels described as 'The part' and The whole' (see Table 5), which involves constantly revisiting and reinterpreting the data in light of new insights gained through analysis. They explain:

The idea is that our entry into the meaning of a text can be made at a number of different levels, all of which relate to one another, and many of which will offer different perspectives on the part-whole coherence of the text (p. 23).

Table 5

The Levels of Hermeneutic Circle

The part	The whole
The single word	The sentence in which the word is embedded.
The single extract	The complete text
The particular text	The complete oeuvre
The interview	The research projects.
The single episode	The complete life

Note. Reprinted from *Interpretative Phenomenological Analysis: Theory, Method and Research* (2nd ed., p. 22) by J. A. Smith, P. Flowers, and M. Larkin, 2021, SAGE. Copyright 2021 by SAGE

The participants' moving from part to whole allows the interpretation of an individual participant's experience in learning and playing musical instruments connected with the phenomenon of the lifeworld of participants' lived experiences. The analysis of their accounts involves a phenomenological reduction, in which the researcher carefully sets aside preconceived notions about older adults' musical experiences and focuses on 'different perspectives on the part–whole coherence of the text' (Smith et al., 2021, p.23). This process allows for an iterative analysis, with repeated reflections and reconsideration of the participants' accounts.

3.2.1.3 Idiography

The remaining theoretical underpinning for IPA is idiography. In contrast to nomothetic, which is concerned with 'the level of groups and populations' and 'general law of human behaviour' (Smith & Osborn, 2015, p.27), idiography focuses on the particular cases committing to 'the detailed examination of particular cases, in understanding how particular people have experienced particular events' (Smith & Osborn, 2015, p.27). Nevertheless, the 'particular' here does not point to the analysis of merely one individual. The idiographic approach involves a careful and slow analysis of each case, followed by synthesising individual cases to find convergence and divergence across participants' experiences in a

distinct context (Smith et al., 2021). Cassidy et al. (2011) elucidate Smith's (2004) and Smith and Osborn's (2007) views on the idiographic level of analysis as:

So, a pattern emerged in the data from which an overarching theme could be constructed, but each participant's experiences were grounded in their particular circumstances and perceptions. This facility for highlighting unique perspectives as well as shared experiences is one of the cornerstones of IPA (p. 267).

Accordingly, IPA advocates a small number of participants, generally between five and ten, who are purposively recruited based on their homogeneity in specific characteristics (Smith et al., 2021). This approach allows for an in-depth exploration of participants' experiences and facilitates the identification of both commonalities and divergences across cases. This idiographic feature requires IPA to examine one case thoroughly and then move to the next case (Smith, 2004; Smith et al., 2021). Smith (2004) suggests that novice researchers using IPA should spend time exploring each case's rich data instead of hastening to explore other cases.

The idiographic nature of IPA enables a focused exploration of specific details about an individual's experience in music participation after retirement while acknowledging the unique nuances and perspectives within each case. Analysing each case individually and synthesising the findings across participants can uncover commonalities and differences in music participation within the context of the digital age. This individuality helps to highlight specific aspects that merit further investigation and provides valuable insights into the evolving landscape of music participation in contemporary times. In line with this, participants were purposively recruited for this thesis to understand better how they have personally experienced significant musical events (Smith & Osborn, 2015).

3.2.2 IPA as a Research Approach

Many published studies in psychology and other disciplines use the IPA to examine lived experience topics. Since its introduction, IPA research has significantly increased, with studies adopting diverse approaches beyond traditional designs. These include incorporating multiple perspectives, mixed methods, group discussions, online data

collection, and longitudinal approaches (Smith et al., 2021). As discussed above, the core principles of IPA involve researchers engaging in a collaborative meaning-making process with participants, focusing on their subjective accounts of phenomena. This process explores individuals' perspectives and relationships with the world, providing partial insights that can be interpreted from different angles. The language participants use is essential for conveying meaning, necessitating careful analysis to understand the nuanced interpretations and understandings it expresses (Smith et al., 2021, pp. 119-120).

IPA research involves an active role of the researcher. The researcher in IPA influences the extent to which they get access to the participant's personal experience and how, through their interpretative activity, they make sense of the lived world of the participant. This requires the researcher to reflect upon their preconceptions about the data and attempt to suspend these to focus on grasping the experiential world of the participant.

When developing research questions for an IPA study, it is important to consider that IPA research focuses on a person's experiences and understanding of particular phenomena in a particular context. IPA research questions are concerned with 'where ordinary everyday experience becomes 'an experience' of importance as the person reflects on the significance of what has happened and engages in considerable 'hot cognition' in trying to make sense of it' (Smith et al., 2021, p. 27). IPA-based studies (Smith, 2017; Nizza et al., 2021; Smith et al., 2021) highlight the importance of 'hot cognition', which involves cognitive and affective sense-making of participants' experience. However, it does not mean that the event or experience has to be only something happening now that started recently. It could be an experience and event that happened in the past that the participant is still engaged in that experience, thus generating hot cognition (Smith, 2017; Nizza et al., 2021; Smith et al., 2021).

This thesis focuses on the overarching question introduced in Chapter 1: 'How do older adults perceive and engage in learning and playing musical instruments after retirement in the digital age?' Recognising that Interpretative Phenomenological Analysis (IPA) aims to delve into participants' subjective experiences rather than testing hypotheses,

this thesis aims to explore and understand the interpretations and understanding of musical experiences by the participants within the context of post-retirement life. By allowing participants to reflect on the significance of their experiences, this thesis seeks to investigate the dynamics of learning and playing musical instruments while also considering the influence of the digital age on music engagement.

There has been an increasing trend in the use of Interpretative Phenomenological Analysis (IPA) in music-related research. A comparative case study by Joubert and Van der Merwe (2020) examined 480 articles in music education published between 2012 and 2015 in five selected journals. The study found that phenomenology-based research was the third most commonly used qualitative approach in the field of music education. Specifically, IPA studies emerged as the most prevalent type of phenomenological study among the articles analysed. This indicates a growing presence of IPA studies in music education research over the past few decades, highlighting the method's popularity and relevance in investigating music-related phenomena.

On the other hand, IPA has critics with various concerns. For instance, van Manen (2017) claims IPA is a psychological 'therapy-oriented' research methodology rather than a phenomenological approach. The author's main concern is that IPA focuses on the personal experience of a participant and their views and understandings rather than on the phenomenon itself. As a phenomenologist, van Manen criticises that IPA does not incorporate what phenomenologists aim to explore: 'the eidetic or inceptual meaning structures or aspects that describe the singular meaning of a certain phenomenon or event' (p. 778). Another earlier critic of IPA, Giorgi (2010, 2011), points out IPA's lack of standardisation of method and rigour, claiming, 'the possibility of replication of IPA studies impossible and thus it makes the fulfilment of an important scientific criterion impossible' (Giorgi, 2011, p. 195). These critics were again addressed and rebutted by Smith (2010, 2011), who highlighted the philosophical underpinnings of IPA, which are discussed in Section 3.2.1.

Although criticisms surrounding the standardisation and rigour of the method, a plethora of empirical studies and literature have supported that a systematic approach to the data collection and transparency of detailed analysis allows for mitigating those concerns (Nizza et al., 2021). While acknowledging these criticisms, the researcher finds IPA provides a valuable way to engage with and understand participants' experiences and sense-making processes.

3.3 Data Collection

The following section offers a comprehensive description of the data collection process, specifically tailored to explore the experiences of older adults in learning and playing musical instruments within the digital age. Each subsection of this section focuses on a participant-centric investigation, delving into the backgrounds of the participants and capturing their subjective experiences in the study. This approach aims to gather rich and nuanced insights into the topic under study.

3.3.1 Recruitment

This thesis investigates the lived experiences of older adults who learn and play musical instruments after retirement in the digital age. Participants were purposively recruited to ensure the collection of empirical insights aligned with the interpretative phenomenological analysis (IPA) orientation. *Purposive sampling* is a method used to select participants who were 'knowledgeable about or experienced with a phenomenon of interest' (Palinkas et al., 2015, p. 2).

The recruitment process began by selecting four participants from the music programme at local community centres in Seoul, South Korea, and Yongin-si, located in the Seoul Capital Area. These participants were retired from full-time jobs and actively involved in learning and playing musical instruments. Referrals from the community centres facilitated

their recruitment. Subsequently, additional potential participants were identified using snowball sampling, where existing participants referred other potential participants.

To mitigate potential limitations related to the purposive approach, such as the risk of researcher subjectivity and bias in participant selection (Etikan et al., 2016), a specific gender, former occupations, or types of instruments played were not targeted. During the recruitment process, the researcher contacted potential participants via phone to explain this thesis' purpose and interview content. A total of ten participants were recruited, all of whom agreed to participate in face-to-face interviews.

It is important to note that the participants recruited for this thesis 'represent a perspective rather than a population' (Smith et al., 2021, p.43). This aligns with the focus of IPA, which seeks to 'understanding of particular phenomena in a particular context' (Smith et al., 2021, p.43). In this respect, IPA studies are conducted on small sample sizes, given that the detailed case-by-case analysis of each participant is essential. Smith et al. (2021) recommend that, particularly above the master's level, 'a sample of ten is gaining currency as an optimal number for many such research projects' (P. 104), depending on the research questions and the data quality obtained.

3.3.2 Participants

The demographic descriptions of the ten participants, including age range, gender, and musical experiences, are presented in Table 6. The participants' information reveals a diverse group of older adults aged 65-79, encompassing six males and four females. Their former occupations varied, including teachers, police officers, military officers, lecturers, and office workers. Retirement ranges from 2010 to 2019, indicating different retirement times but also all within the same decade. It is worth noting that during the 2010s, South Korea experienced ongoing progress following the recovery from the 2007-08 financial crisis but faced the challenges posed by an ageing population impacting economic growth (Fouser, 2019). The main instruments played by participants include autoharp, ocarina, saxophone,

trumpet, harmonica, and acoustic guitar. Some participants were currently employed on a part-time basis, while others were not employed.

Table 6

The Sociodemographic Description of Participants

Participant	Age range	Gender	Former occupation	Retired year	Main instrument	Current employment
K1	70-74	F	Teacher	2012	Autoharp	No
K2	70-74	M	Teacher	2013	Autoharp	No
K3	65-69	M	Police officer	2016	Ocarina	Part-time
K4	65-69	M	Military officer	2017	Saxophone	No
K5	65-69	M	Office worker	2017	Trumpet	No
K6	65-69	M	Military officer	2018	Saxophone	Part-time
K7	65-69	F	Lecturer	2019	Harmonica	No
K8	75-79	F	Office worker	2010	Harmonica	No
K9	75-79	M	Teacher	2011	Acoustic guitar	No
K10	65-69	F	Office worker	2019	Acoustic guitar	No

3.3.3 Semi-structured Interviews with Artefact Elicitation

This thesis's primary data collection method involved conducting semi-structured interviews using artefact elicitation techniques, where specific objects were used to prompt participants to provide in-depth responses (Douglas et al., 2015). Each participant was interviewed using a semi-structured format, which allowed them to share their experiences while maintaining a specific direction to the questions. The interview sessions were scheduled based on participant availability, and each interview ranged from approximately one hour to one hour and a half.

3.3.3.1 Constructing a Guide for a Semi-structured Interview

IPA studies use an interview guide to help researchers prepare for an interview's content (Smith et al., 2021). As such, the researcher followed a series of phases to develop

an interview guide based on the semi-structured interview guide by Kallio et al. (2016). The process involved the following phases: 1) formulating the preliminary semi-structured interview schedule, 2) pilot testing interview schedule, and 3) presenting the complete semi-structured interview schedule (Kallio et al., 2016, pp. 2959-2961).

First, the researcher formulated the preliminary interview schedule using a 'funnelling approach' (Harle et al., 2015). The questions began with broad topics, such as personal background and current musical engagement. They gradually focused on the research topic, exploring participants' experiences of learning and playing musical instruments in the digital age. Open-ended questions and prompts were designed to elicit meaningful responses.

Second, after developing the preliminary interview schedule, the researcher conducted interview practices with two Korean native older adults who were not direct participants. This allowed the researcher to ensure that questions were understandable and straightforward and to prepare some interview techniques, such as effective prompts. These practices before the interviews enabled the researcher to increase confidence and refine some questions with plainer words. In addition, this pilot phase allowed the creation of a pre-interview questionnaire (Appendix A) to gather participants' background information, including age range, gender, former occupation, and musical background (Edwards & Owen-Booth, 2021). This pre-interview questionnaire provided valuable insights and facilitated a better understanding of the participants' background information in a non-intrusive manner.

Finally, after incorporating the necessary revisions from the interview practices, the researcher finalised the interview guide (Appendix B). This complete schedule represented a well-structured and comprehensive set of questions and prompts for the semi-structured interviews. By following these phases, the researcher ensured a systematic and rigorous approach to constructing the interview schedule and refining it through pilot testing before conducting the interviews.

3.3.3.2 Conducting Semi-structured Interviews

The semi-structured interviews were conducted between the researcher and the participants at a mutually agreed-upon time at community centres. To ensure sufficient time for the interviews, rooms at the community centres or cafes within the community centres were reserved for two hours. This allowed for a comfortable and uninterrupted interview environment. One of the important aspects of the interviews is establishing rapport with the participants (Whiting, 2008; Smith et al., 2021). The opening phase of each interview reiterated the purpose of the interview in order to ensure participants knew what to expect. Since the researcher did not have a prior social relationship with the participants, the consent process offered an opportunity to provide the researcher's educational and musical background as an instrumentalist. Additionally, the researcher stressed the confidentiality of the information shared and the importance of the participant's contribution to the knowledge generated in this thesis (Adams, 2015). These measures aimed to mitigate any concerns the participants may have had about participating in the interviews (Rabionet, 2011; Whiting, 2008). The following section (3.3.4) further discusses ethical considerations related to the interview process.

In-depth interviews often require considerable time (Smith et al., 2021). The interviews with participants lasted approximately 60 to 90 minutes. Before the interviews, participants were informed about the expected time commitment and reassured that they could withdraw from the interview at any time. A small digital voice recorder with a built-in microphone and a microSD card was used to ensure accurate capture of the interview content. This allowed the interviewer to actively engage in the conversation instead of being occupied with notetaking, aligning with the suggestion by Adams (2015). Additionally, a second voice recorder on the researcher's mobile phone was available as a backup in case of any technical issues with the primary recording device. Participants were notified about the recording process, its purpose, and the protection of their privacy, and the recording commenced only after obtaining their explicit consent (Adams, 2015).

As described in the previous subsection (3.3.3.1), participants were first given the pre-interview questionnaire (Appendix A) before proceeding to the interview guide (Appendix B). During the interviews, as participants shared their experiences of learning and playing musical instruments, the researcher incorporated additional interview questions to encourage deeper reflection and exploration (Adams, 2015). These supplementary questions elicit more detailed accounts and encourage participants to spontaneously delve into specific aspects of their experiences (Smith et al., 2021).

During the interview, artefact elicitation was used to elicit richer accounts of participants' experiences. Artefact elicitation is a technique for semi-structured interviews which uses certain objects to prompt participants to respond to questions in depth (Douglas et al., 2015). The use of photographs during interviews to prompt responses has been discussed in the literature as an effective tool (Barret & Simgiel, 2007; Douglas et al., 2015; Mills & Hoeber, 2013). In most cases, photographs 'evoke information, feelings, and memories due to the photograph's particular representation and stimulate latent memory, reducing areas of misunderstanding, eliciting longer and more comprehensive accounts of ideas' (Douglas et al., 2015, p.26). Mills and Hoeber (2013) employed both 'auto-driven' photographs (using photographs taken by participants) and researcher-driven photographs (using photographs brought by a researcher). They found that it provided depth and richness to the interview, increasing the rapport and comfort level of participants. In Barret and Simgiel's study (2007), they used a variety of artefacts, such as trophies, photographs, costumes, props, programmes, posters, souvenir t-shirts and musical instruments to engage child participants during interviews.

At the beginning of each interview, a set of images depicting a variety of musical instruments and music-related technologies, including radios, cassette tapes, Long Play (LP) records, CD players, tablet PCs, and personal mobiles, was presented on the table (Appendix C). The selection of music-related technologies was based on previous literature and newspaper articles discussing the most commonly used music-related technologies among general populations (Hadis, 2016; Herzog, 2014; Mao & Good, 2018; Solida, 2020).

In addition to photographs, the researcher kindly requested participants to bring their musical instruments during the interview arrangement process, though not mandatory. This was inspired by a previous study (Douglas et al., 2015) that employed physical and virtual artefacts to facilitate in-depth responses during the interview. Eight participants brought their instruments, while two opted to bring pictures of playing their musical instruments due to logistical constraints. During the interview, some participants played their instruments, demonstrating to the interviewer (the researcher) the music they were learning (see Figures 3 and 4). Thus, each interview incorporated artefact elicitation through visuals and actual musical instruments, providing participants with a means to evoke and reflect upon their musical experiences.

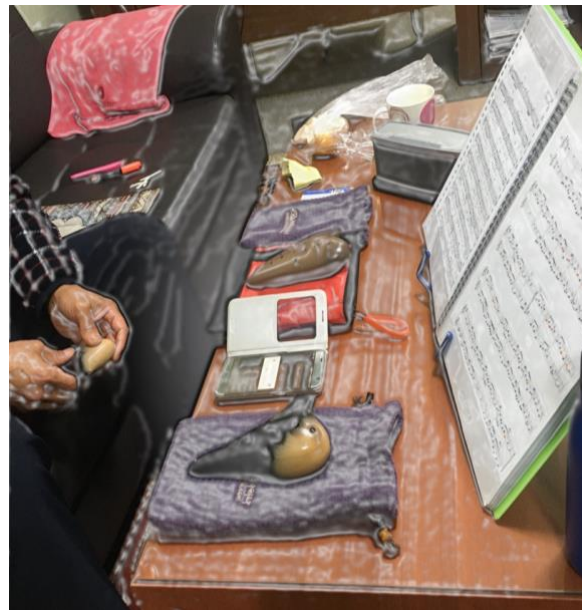


Figure 3: Picture of Participant with the Ocarina



Figure 4: Picture of Participant Playing Harmonica

3.3.4 Ethical Considerations

It is essential to acknowledge and address the unique considerations and ethical responsibilities associated with conducting research involving older adults (Bellingtier & Sharifian, 2016). As such, each stage of the interview process has been scrutinised and approved by the Ethics Committee of the Institute of Education, University College London. This thesis was registered with the UCL Data Protection Registration Number Z6364106/2019/08/95, further ensuring the protection of participants' data and privacy. Moreover, as the interviews took place in the context of the COVID-19 pandemic, a risk assessment process was undertaken by the researcher, administered by the IOE Research Ethics Committee for starting or resuming fieldwork in the context of the COVID-19 pandemic (See Appendix E). The interviews adhered to safety information on hazards, risks and control measures following the University College London, Institute of Education's research ethics (Appendix E).

At the start of the interview, an information sheet/consent form (Appendix D) was provided to participants. Each participant was asked to read and sign the information sheet and consent form, which provided detailed control measures to mitigate hazards and risks

related to the COVID-19 pandemic (Appendix E). The researcher allowed sufficient time for participants to comprehend the information. Clear communication of the interview's purpose and process to participants was crucial before and after the interviews. The researcher emphasised to participants that their responses would be treated confidentially and encouraged them to be open about their experiences of learning and playing musical instruments after retirement in the digital age. To maintain contact, participants were given a copy of the signed consent form and a name card of the researcher for any future concerns or questions.

Given the age difference between the participants (older adults) and the researcher (a younger adult), it was important for the researcher to approach the participants with respect and courtesy, considering the cultural context (see Section 1.4 for the cultural context of South Korea). At the same time, the researcher maintained a professional attitude as a PhD candidate from a prestigious higher education institution in the UK, effectively communicating the researcher's educational background to the participants. As Hall et al. (2009) highlighted, conducting research with older adults requires flexibility in research procedures. Therefore, ensuring that the participants felt comfortable and valued throughout the research process was important.

The data collected for this thesis consisted of both audio recordings and interview transcripts. Considering the General Data Protection Regulation (GDPR) and the Data Protection Act, the researcher needed to handle and store this data appropriately. The participants were assured of anonymity and confidentiality. All data was stored securely on the researcher's password-protected computer system with an encrypted storage medium. Moreover, the digital audio recordings were transcribed into text and deleted permanently upon successful transcription. Signed consent forms and participant materials were stored in a secure, locked storage unit.

Following the interviews, participants were provided with a transcript of their interview via email or post to ensure accuracy. All participants confirmed the accuracy of their transcripts. Additionally, participants had the option to withdraw their data at any point before

publication, but none of the participants expressed a desire to withdraw their data. Maintaining anonymity and removing identifiable information from participant quotes were essential during the writing phase. To achieve this, participant identifiers in the form of pronouns (e.g., K1, K2, K3 ... K10) were used consistently throughout this thesis to preserve anonymisation in the write-up.

3.4 Analysis

The existing literature on IPA provides detailed information on the analytic process (Nizza et al., 2021; Smith et al., 2021). However, Smith et al. (2021) posit that no single method exists for analysing collected data in IPA. It draws upon common processes with an iterative and inductive cycle. The following processes were employed to analyse ten participants' collected in-depth interview data.

Also, it is important to note that Smith et al. (2021) introduced changes to some of the terminologies used in IPA analysis. The previously called 'emergent theme' was changed to 'experiential statements'. The emergent themes were clustered to form superordinate themes, but for the new term, the experiential statements are clustered to form 'Personal Experiential Themes' (PETs), which substitutes 'Subordinate Themes'. Furthermore, those 'Personal Experiential Themes' are grouped to make a 'Group Experiential Theme' (GET), which substitutes 'Superordinate Theme'. Accordingly, the data analysis conducted for this thesis used the updated terms, and Figure 5 outlines how the hierarchical structure of the revised terminologies can be presented (Smith et al., 2021).

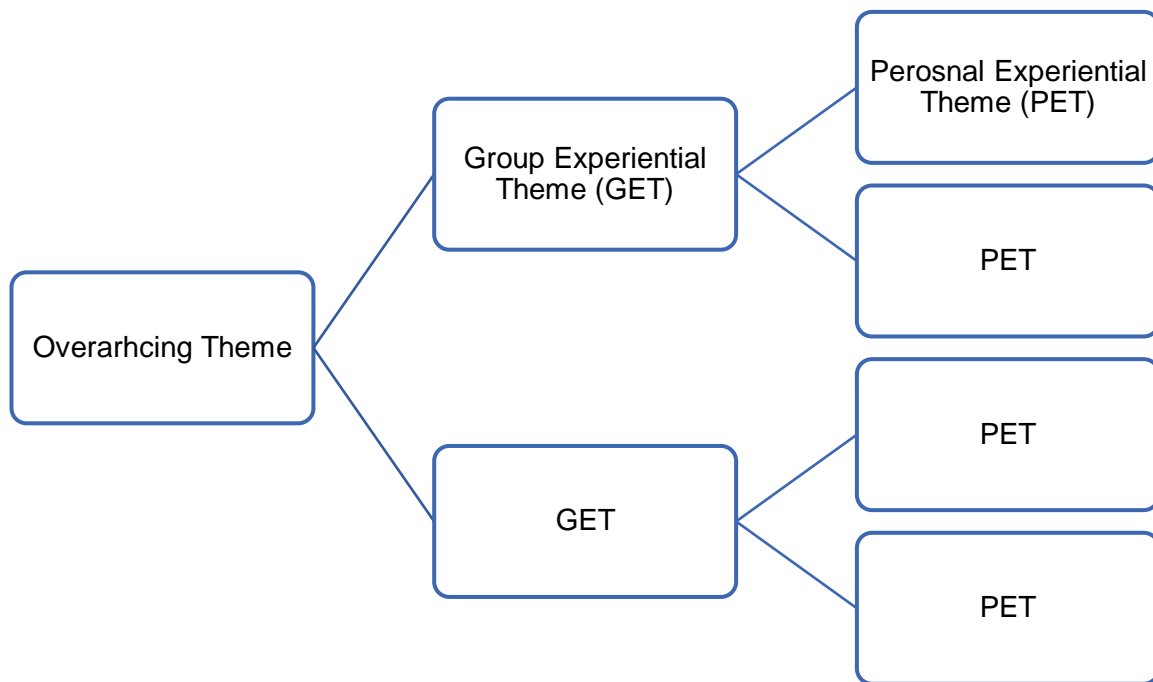


Figure 5: The Hierarchical Structure of the Revised Terminologies Used for the Analysis

3.4.1 Phase 1: Exploratory Analysis

1) Transcribing

The researcher transcribed each interview, allowing a close line-by-line familiarity with the participants' language and recapitulating the interview atmosphere. As the interviews were conducted in Korean, it was essential to transcribe them in Korean, staying as accurate to the participants' language use as possible (Smith et al., 2021). All participants used the standard Korean language, meaning not speaking in strong dialects or with varied intonation that might confuse the transcription.

While IPA does not require a highly detailed transcription of every aspect of the recorded interview, such as the exact length of pauses or all non-verbal utterances, it was important to recognise some range of non-verbal features that might be meaningful to the researcher, such as notable laughter, significant pauses, or hesitation (Smith et al., 2021). Therefore, when participants use pauses or laughter, these were transcribed with the marks

shown in Table 7. Participants used short and long pauses, with short pauses often used to retell ideas that had already been stated and then to come back to a deeper thought about the topic discussed. Also, short pauses were used to slur the end of a sentence without completing sentences and then shifting to the following statement or topic. Moreover, there were instances of significant laughter, which showed emotions, which were noted as gentle laughter in the transcript.

Table 7

A Note of Non-Verbal Features

Transcript mark	Symbolises
...	Short pause or slur the end of sentence
[Long pause]	Longer pause
[Gentle laughter]	Mid laughter with soft sounds

2) Reading and re-reading

This process involved reading and re-reading the interview transcription while listening to the audio recording and annotating interesting or significant observations (Nizza et al., 2021; Smith et al., 2021). This helped the researcher capture initial observations of the interview data and recollect the interview experience. The reading and re-reading process enabled the researcher to identify sections of the interview that were bound together thematically and understand how the narratives were structured. Although the interview was embedded within the themes the researcher asked, there was a time when a narrative shifted to more generic events or thoughts. Therefore, this reading and re-reading process allowed the researcher to identify the location of these richer and more detailed sections.

3) Exploratory noting

This step involved identifying what the participants talked about and how they understood and thought about the experience of their playing and learning musical instruments. Given that this step aimed 'to produce a comprehensive and detailed set of

notes and comments on the data' (Smith et al., 2021, p.79), some exploratory noting was richer than others. Having a phenomenological focus, the researcher tried to focus on the participants' language, contradictions and echoes in their speech and questions (Smith et al., 2021). Figure 6 illustrates the process of exploratory noting, which shows a portion of an interview transcript with a participant (K7). The notes were typed into a Microsoft Excel spreadsheet and placed in a column alongside the transcript. The exploratory notes were written in English, and significant narratives were highlighted in orange to signify participants' important experiential narratives.

More importantly, this process also involved interpretative noting, which helped the researcher understand how and why participants had those concerns. Smith et al. (2009) note that the exploratory noting particularly entails:

Looking at the language that they use, thinking about the context of their concerns (their lived world), and identifying more abstract concepts that can help you [the researcher] to make sense of the patterns of meaning in their [participants] account (p.83).

In that sense, the researcher employed more hermeneutic and reflective work and developed speculative interpretations. However, not all these interpretations were developed into experiential statements in the following stage.

	Transcript	Exploratory Notes
K7	네.. 주민센터는 음.. 일단은 그거는 홍보를 많이 해요 이렇게 그 길 옆에 프랭카드를든가 또 홈페이지를 통해서 주민들한테 홍보를 좀 하죠 그래서 제가 그러니까 거기로 간 이유는 제가 이제 그 강의를 하다가? 나이를 먹어서... (웃음) 일단은 2019년까지 강의를 했어요 작년서부터 쉬게 됐는데 이제 그 어떻게 하면은 그 시간을 알뜰하게 쓸까 그런 생각을 하다가 주민 센터에 프로그램을 제가 보게 됐죠. 그래서 제가 악기는 하나를 해서 제가 이제 이동을 하거나 이럴때 소지도 편하고 조금만 배우면 그건 가능할 것 같아서 그래서 제가 그걸 신청해서 듣게 됐죠.	<u>About local community centre:</u> Learned about the programmes by flyers and webpage <u>Main motivation:</u> Concerns over the increased amount of free time after retirement. Gentle laughter and pause while talking about her age After retirement: getting old and free time led to think "how to use free time wisely" Learning the musical instrument. The Harmonica : an instrument that is "convenient to carry around" and "possible to learn with little time"
R	개인으로...그 프로그램에 대해서 설명을 좀 해주실 수 있을까요?	PROMPT: Experience of learning the instrument?
K7	근데 제가 조금 아쉬운 점이 뭐였냐면.. 초급반 중급반 고급반으로 돼 있어요 근데 저는 이제 초급반에 들어가는데 신청만 하면 인원 제한 있어요 15명까지 15명에서 이제 인원이 이제 못 들어가는 거 참여를 못 하게 되는데 제가 들어가서 느낀점이 뭐냐면 저는 그냥 간단한 하모니카로 그냥 잘 능숙하게 부를 수 있게 자세히 가르쳐 줬으면 좋겠는데 이제 그 앞에서 강의하시는 분들의 의도는 빨리 단기간안에 이제 중급반에 올라가서 하모니카를 두 개 가지고 불러야하고 조금 얼마안있다가 세개로 불러야 되고 이게 버겁더라고요. 의도와 다르게 그 강의하시는 분들과 저는 이제 수강생 입장인데 거기에서 약간 언밸런스가 났고 그다음에 뭐 우리가 이렇게 나이가 있는데 막 세 개 네 개 갖고 이렇게 불러야 되는 과정이 너무 높으 올라가니까 거기에 대한 부담감이 있더라고요.	<u>Expectation vs Reality:</u> Feeling lacking of ... learning the instrument: To learn a simple instrument like Harmonica in detail and to play well. To achieve something. But what she actually experienced was <u>difficulties:</u> Feeling hard to follow the progress, feeling pressured. What she wanted to achieve: Play well. A tutor who seems not consider older student's age and their capability: "feeling unbalanced" between students and tutor. Highlighting being old, but the programme required to learn fast and go to the next level, which made her "feel pressured". Steps of attaining musical skills

Figure 6: An Example of Exploratory Notes (Participant K7)

3.4.2 Phase 2: Developing and Organising Experiential Statements

At this stage, while maintaining complexity, the researcher reduced the volume of detail of exploratory notes to articulate the essential features of exploratory notes. Here, through analysing the exploratory notes, the experiential statements were identified, summarising concisely and succinctly a set of important and meaningful parts. These statements are 'usually expressed as phrases which speak to the experiential core of the piece and contain enough particularity to be grounded and enough abstraction to be conceptual' (Smith et al., 2021, p.86). Figure 7 presents the experiential statements for the piece of transcript first presented in Figure 6.

Transcript	Exploratory Notes	Experiential statements
<p>네.. 주민센터는 음.. 일단은 그거는 홍보를 많이 해요 이렇게 그 길 옆에 프랭카드를든가 또 홈페이지를 통해서 주민들한테 홍보를 좀 하죠 그래서 제가 그러니까 거기로 간 이유는 제가 이제 그 강의를 하다가? 나이를 먹어서... (웃음) 일단은 2019년까지 강의를 했어요 작년서부터 쉬게 됐는데 이제 그 어떻게 하면은 그 시간을 알뜰하게 쓸까 그런 생각을 하다가 주민 센터에 프로그램을 제가 보게 됐죠. 그래서 제가 악기는 하나를 해서 제가 이제 이동을 하거나 이럴때 소지도 편하고 조금만 배우면 그건 가능할 것 같아서 그래서 제가 그걸 신청해서 듣게 됐죠.</p>	<p><u>About local community centre:</u> Learned about the programmes by flyers and webpage</p> <p><u>Main motivation:</u> Concerns over the increased amount of free time after retirement. Gentle laughter and pause while talking about her age After retirement: getting old and free time led to think "how to use free time wisely"</p> <p>Learning the musical instrument. The Harmonica : an instrument that is "convenient to carry around" and "possible to learn with little time"</p>	<p>Concerns over free time after retirement</p> <p>Importance of accessibility</p> <p>In pursuit of feeling achievement through music</p>
<p>개인으로...그 프로그램에 대해서 설명을 좀 해주실 수 있을까요?</p>	<p>PROMPT: Experience of learning the instrument?</p>	
<p>근데 제가 조금 아쉬운 점이 뭐였냐면.. 초급반 중급반 고급반으로 돼 있어요 근데 저는 이제 초급반에 들어가는데 신청만 하면 인원 제한 있어요 15명까지 15명에서 이제 인원이 이제 못 들어가는 거 참여를 못 하게 되는데 제가 들어가서 느낀점이 뭐냐면 저는 그냥 간단한 하모니카로 그냥 잘 능숙하게 부를 수 있게 자세히 가르쳐 줬으면 좋겠는데 이제 그 앞에서 강의하시는 분들의 의도는 빨리 단기간안에 이제 중급반에 올라가서 하모니카를 두 개 가지고 불러야하고 조금 얼마안있다가 세개로 불러야 되고 이게 버겁더라고요. 의도와 다르게 그 강의하시는 분들과 저는 이제 수강생 입장인데 거기에서 약간 언밸런스가 났고 그다음에 뭐 우리가 이렇게 나이가 있는데 막 세 개 네 개 갖고 이렇게 불러야 되는 과정이 너무 높이 올라가니까 거기에 대한 부담감이 있더라고요.</p>	<p><u>Expectation vs Reality:</u> Feeling lacking of ... learning the instrument: To learn a simple instrument like Harmonica in detail and to play well. To achieve something. But what she actually experienced was <u>difficulties:</u> Feeling hard to follow the progress, feeling pressured. What she wanted to achieve: Play well. A tutor who seems not consider older student's age and their capability: "feeling unbalanced" between students and tutor. Highlighting being old, but the programme required to learn fast and go to the next level, which made her "feel pressured". Steps of attaining musical skills</p>	<p>Desire to be skillful at playing</p> <p>Awareness of age constraints Experience of difficulties in following instruction</p> <p>Feeling pressured of unbalanced needs</p>

Figure 7: An Example of Experiential Statements of K7

Once experiential statements were established within the transcript, as shown in Figure 7, they were compiled and listed in a Microsoft Excel spreadsheet. Each statement was given a reference number in the format of participant identifier, "PPT #", and transcript location number, 'Ref #', as illustrated in Figure 8. The order of experiential statements was chronological, but the repeated or similar experiential statements were later clustered together. The reference numbers allowed for easy tracing of the interview text.

Experiential statements	PPT #	Ref #
A need for doing what I want to do	9	2, 21
Desire to involve in social activities	9	2, 5, 25
A need for coping with difficult feelings after challenging time	9	5
Desire to learn that I couldn't when I was young	9	7,9
Feeling incompetent and lack of confidence	9	11, 25,37
Just interests are not enough	9	15
Feeling my age	9	33,35
Self-satisfaction	9	29,41, 93
Reduction of social isolation	9	29, 93, 95
Feeling of a sense of achievement	9	29, 43, 115
Meaningful life after retirement	9	103, 105, 113
Being discouraged and feeling incompetent	9	57, 61
Pushing myself to be better than others	9	49, 111
Other people appear to use YouTube	9	75, 77, 81, 73
Perceiving usefulness but not for me	9	83, 87, 91
Engaging in what you can do well after retirement	6	3, 5, 47
A need for doing what I want to do	6	3, 9, 47

Figure 8: An Example of Personal Experiential Statements and Participant Identifiers

3.4.3 Phase 3: Developing the Personal Experiential Themes (PETs)

This stage involved identifying connections among experiential statements and charting the statements that fit together while discarding unsuitable statements. The researcher examined connections between experiential statements and clustered, closely aligned ones. Then, each cluster of experiential statements was given a name or theme, becoming the participant's 'Personal Experiential Themes' (PETs). Smith et al. (2021) delineate the reasons for using the term 'Personal Experiential Theme' as follows:

- *Personal* because they are at the level of the person. We are not using the term here in the other sense, of something being private or intimate. We are not saying all themes will be intimate (though some may well be); some themes will be relational, social or abstract. However, they will all have been derived from the particular person whose case is being examined at the time.
- *Experiential* because they relate directly to the participant's experiences (in this case of her friend and their friendship) or their experience of sense-making.
- *Themes* because they are now no longer tied to specific and local instances within the transcript (as statements are). Instead, they reflect analytic entities present within the transcript as a whole (p.94).

To organise the clusters of statements and develop PETs more coherently, the researcher used mind-mapping software called *Xmind: Zen*⁸. This software allowed the researcher to move around related statements and visualise their relationships effectively. The experiential statements were structured and grouped under the identified PETs using the mind map. At this point, the experiential statements continued to be consolidated and organised through the mind mapping software to develop the PETs (See Figure 9).

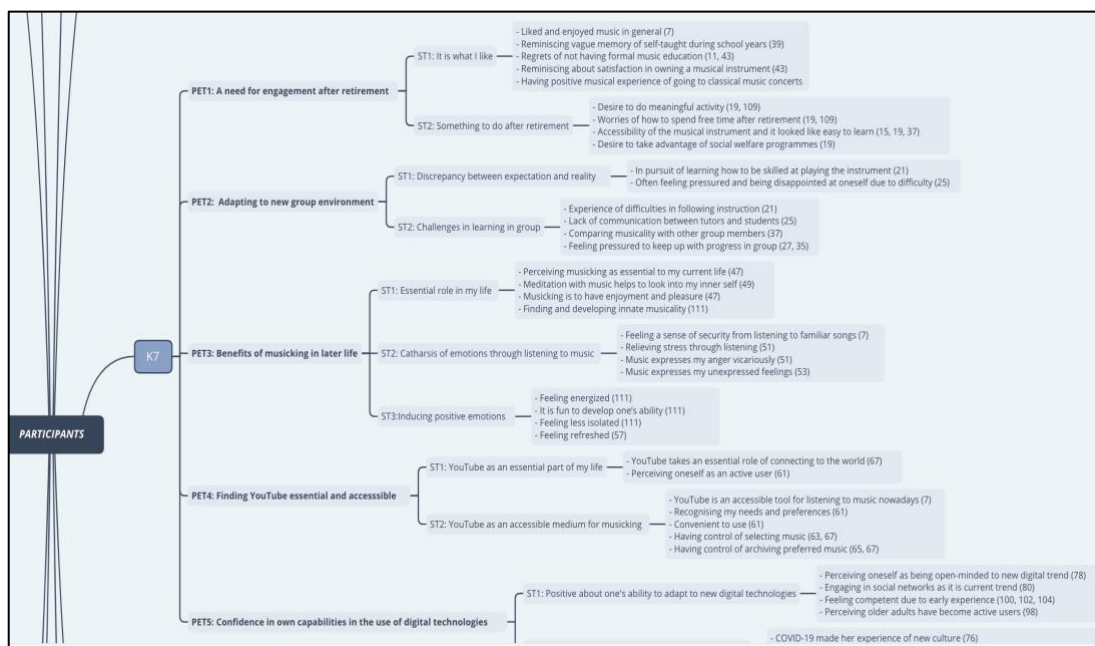


Figure 9: An Example of Developing PETs

After developing and organising PETs, the process moved to the following participants' transcripts and repeated the processes of phases 1 and 2. Each participant went through the same process described above, respecting the idiographic feature of IPA (Nizza et al., 2021; Smith et al., 2021).

3.4.4 Phase 4: Developing Group Experiential Themes (GETs)

After generating the PETs of all participants, the next stage involved identifying patterns of convergences and divergences across the Personal Experiential Themes (PETs) to develop a list of Group Experiential Themes (GETs) (Smith et al., 2021). The researcher

⁸ <https://web.archive.org/web/20180130163819/https://www.xmind.net/zen/>

began by scanning the PETs of each participant and considering similarities and differences. As this is a cyclic process, the PETs were checked against the original interview transcripts to ensure accuracy. The analysis continued until all the PETs were integrated and identified with GETs. The six headings were identified as the initial GETs presented in Table 8.

Table 8*Initial GETs with PETs before Refinement, Which Cut across the Cases*

Candidate GETs	Candidate PETs	Grouped experiential statements
Musical aspirations	Early experiences	<ul style="list-style-type: none"> - Specialty developed through school music education - Others rarely do - Continued engagement of one's specialty
	Love of music	<ul style="list-style-type: none"> - Liking music in general - Being attracted to sound of an instrument - Lifelong goal and interests in playing - Desire to learn that was not possible at younger age
To do something after retirement	Emotional needs	<ul style="list-style-type: none"> - Desire to do meaningful activity after retirement - A need for coping with challenging time - Liking to do something with enjoyment - Liking to take new challenge
	Social needs	<ul style="list-style-type: none"> - Desire to take part in playing and learning together - Desire to have social connections
Experience of music group	Coping with an unfamiliar environment	<ul style="list-style-type: none"> - Feeling like going back to school years - Experience of female majority group dynamics - Conforming to group's needs
	Experience of new social interactions	<ul style="list-style-type: none"> - Sharing enjoyment by performing together - Feeling rewarding through supporting others - Feeling connected to people with similar age - Being able to play for others - Experience of positive social connection through musical and extra-musical activities
Personal gains	Feeling competent	<ul style="list-style-type: none"> - Identifying and reinforcing one's musical potential - Making beautiful sound - Reinforcing confidence in life - Making efforts to be better than others

Candidate GETs	Candidate PETs	Grouped experiential statements
	Enjoyment and appreciation	<ul style="list-style-type: none"> - Feeling enjoyment and special - Playing for enjoyment and self-comfort - Grateful to involve in high-culture activity in later life - Enjoyment is most important - Having enjoyment through playing together
	Feeling worthy	<ul style="list-style-type: none"> - Feeling worthy through playing for others - Being satisfied by positive feedback from others - Feeling rewarding by conveying musical knowledge to others - Performing for others
Critical reflections	Acknowledging difficulties	<ul style="list-style-type: none"> - Feeling physical and cognitive constraints due to age - Putting effort into practise - Being regretful for not having formal music education - Perceived difficulties in learning new skills - Time and endurance are needed
	The role of facilitators	<ul style="list-style-type: none"> - Following tutors' instructions - Different needs - Coping with diversity
	Being critical while learning	<ul style="list-style-type: none"> - Identifying oneself as an unmusical person - Comparing with other members - Keeping up with progress
Impact of digital music technologies on the learning experience of music instruments	Autonomous learning	<ul style="list-style-type: none"> - Being able to practise and make progress - Taking control over learning - Keep learning and practising by myself - Being able to practise outside the programme - Experiential learning
	Ease of access and use	<ul style="list-style-type: none"> - Instantaneous exploration of musical interests through YouTube - Enhancement of accessibility to instructive music resources - Enabling to access a variety of resources - Meeting one's musical needs

Candidate GETs	Candidate PETs	Grouped experiential statements
	Overflow of information and dependence	<ul style="list-style-type: none"> - Concerns about over-dependence to digital technologies - Being cautious about passive learning attitude - Being intimidated by overflow of information
Relationship with digital literacy	Knowledge and competence	<ul style="list-style-type: none"> - Identifying oneself as active user - A novel but useful medium of learning - Perceived competency in digital technology - The influence of others - Positive about one's ability to adapt to new digital technologies
	Uncertainty of one's capability	<ul style="list-style-type: none"> - Awareness of YouTube usage as a popular trend among older adults - Being less certain about my capability - For certain people, not for me
Influence of others and social circumstance	Group interactions	<ul style="list-style-type: none"> - Recommended by peers and tutors - Useful in exchanging information - Learning from people about what and how they use them
	Changes of perceptions due to the pandemic	<ul style="list-style-type: none"> - Worth to try despite challenges - Radio as an essential technology of musical engagement in the past - Needs to learn more about them due to the social isolation due to the pandemic - Learning beyond classroom amidst the pandemic

The eight headings were consolidated and reorganised through further refinement, resulting in three overarching themes with their corresponding GETs and PETs. These will be presented in the following chapters, with each GET presented in a logical sequence.

The analysis process was lengthy and intricate, attempting to comprehend participants' narratives. It is important to acknowledge that not all experiential statements and PETs were used or developed into GETs for this thesis. This was done to maintain focus on this thesis's research questions, although the participants provided abundant data. Figure 10 presents a diagram depicting the analysis flow to provide an overview. The subsequent section (3.5) delves into the considerations of validity and quality employed in the analysis of this thesis.

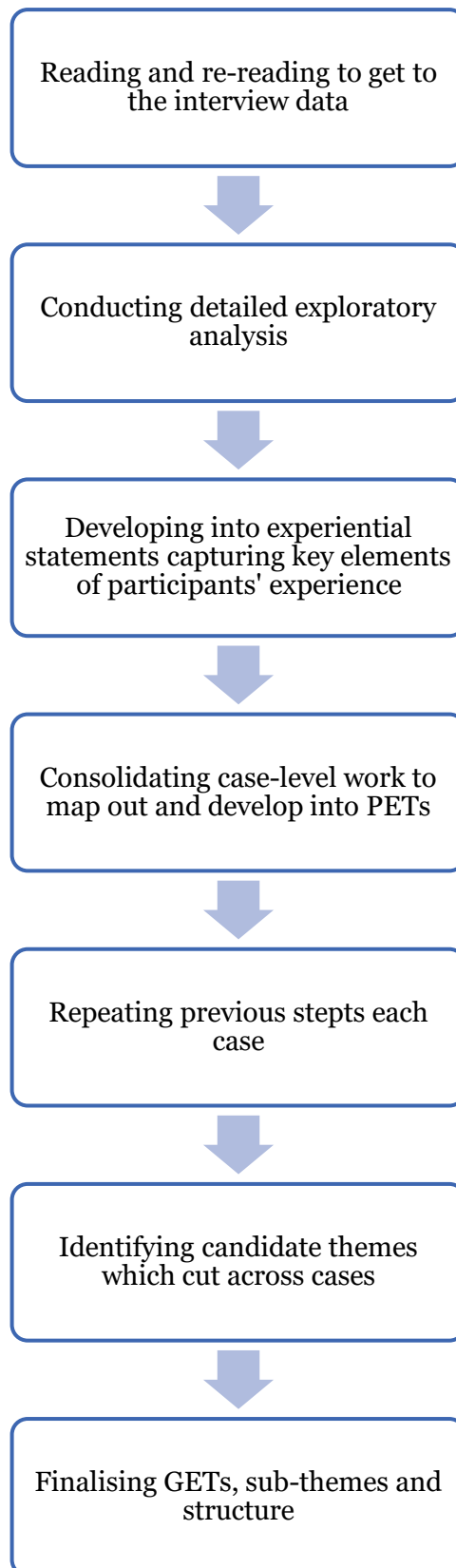


Figure 10: A Flow Diagram of Data Analysis Process

3.5 Validity of Analysed Data

Evaluating the validity of qualitative research is a significant aspect of research, as it reflects the rigour of the analysis (Creswell & Poth, 2018; Smith et al., 2021; Yardley, 2000, 2017). Traditional criteria used to assess quantitative research, such as reliability of statistical measures, replicability of findings or a representative sample, are inappropriate for qualitative research due to ontological and epistemological differences between qualitative and quantitative research (Creswell & Poth, 2018). Given that, Yardley (2000) suggested four principles for assessing the quality of qualitative research: 1) sensitivity to context, 2) commitment and rigour, 3) transparency and coherence and 4) impact and importance.

Building on those early principles of quality and validity for qualitative research, Smith (2011) and other studies (Larkin & Thompson, 2011; Nizza et al., 2021) have articulated criteria for high-quality IPA research. This includes reflecting on an orientation to phenomenology, focusing on being experiential and interpretative rather than descriptive, and being idiographic and particular rather than nomothetic. Drawn together, Smith et al. (2021) outline seven ways to enhance the quality of IPA outputs:

- Consider the analytic span
- Make space to elaborate on each PET and GET
- Ensure high-quality data
- Demonstrate your rigour
- Detail the complexity of your analysis
- Illustrate analytic depth and avoid description
- Attentive and skilled writing (p. 153)

Therefore, during the analysis of this thesis, the researcher attempted to remain cognisant of the principles of validity and quality of IPA as outlined by earlier studies. An independent audit was conducted further to enhance the validity and credibility of the analysis (Smith et al., 2021). The researcher invited two doctoral-level postgraduate students with extensive experience conducting various qualitative research and proficiency in Korean and English to audit the analysis findings. The auditors were provided with two randomly selected sections of the transcript of participants' interviews and were asked to follow the researchers' analysis from the annotated initial explorations and experiential

statements to the clusters, PETs and GETs. Both auditors agreed that the findings were credible and understandable.

The theoretical transferability of IPA requires a detailed and contextualised analysis of participants' lived experiences rather than empirical generalisability. Therefore, it needs to provide a rich, transparent, and contextualised analysis of the participants' accounts. (Smith et al., 2021). The credibility of the findings is based on the pattern of meanings that emerge from participants' lived experiences, supported by a large body of literature on detailed IPA analysis.

3.6 Chapter Summary

This chapter provided an overview of the theoretical framework of Interpretative Phenomenological Analysis (IPA) and described the procedures used to collect and analyse data in this thesis based on the IPA approach. This chapter highlights that IPA is rooted in phenomenology, hermeneutics, and idiography. Phenomenology, which seeks how things appear to us in immediate experiences rather than on objective or scientific explanations of experiences, aims to uncover the structures and meaning of experiences. Hermeneutics, which provides a framework for interpreting and understanding texts and experiences, recognises the role of interpretation in shaping the meaning of experiences. Idiography emphasises the unique character of phenomena concerned with studying individual cases or unique features of a particular phenomenon.

Building on these theoretical foundations, IPA acknowledges that individuals construct their realities through their subjective experiences and interpretations. Consequently, it aims to gain insight into the interpretive processes through which individuals make sense of their experiences rather than seeking objective truths about the world. As such, this chapter argues that IPA was employed to understand how participants make sense of their experience of learning and playing musical instruments in the digital

age. By examining participants' interpretive processes, IPA allows for a nuanced understanding of their experiences and the meanings they ascribe to them.

To respond to the research questions presented in Chapter 1, this chapter accounted for how data were collected and analysed. Specifically, the interview involved ten retired individuals who have been engaged in learning and playing musical instruments at local community centres. To explore in-depth accounts of the participants' subjective experiences, the researcher conducted semi-structured interviews with artefact elicitation, including photographs and objects related to musical instruments and digital technology. The interview data were analysed using an iterative process that identified meaningful themes and patterns. IPA, as an approach, seeks to provide an interpretative account of participants' experiences, capturing their unique perspectives and the significance they attribute to their experiences.

It is important to acknowledge that throughout the analysis process, the researcher endeavoured to effectively 'bracket' preconceptions and biases that may arise from their position as an interviewer. However, given the dual role of an interviewer and researcher, there may be instances where the subjective responses and understanding of the researcher influence the analysis. Despite this challenge, the researcher made a conscientious effort to interpret multiple participant data effectively while remaining mindful of the need to 'bracket' preconceptions whenever possible. Smith et al. (2021) sum up the value of IPA-based research, recognising its potential within the context of its inherent epistemological and methodological limitations as follows:

IPA provides a fascinating and very rich way of engaging with, and understanding, other people's worlds. Through it, we have learned about the complexity of individual lived experience. At times, it has provided us with insights into the lives of people whose voices might not otherwise have been heard, or whose experiences were ignored, or else constructed quite differently, by mainstream theoretical models. At other times it has afforded us illuminating perspectives upon personal relationships and processes, or professional interventions and contexts. We have found the process of doing IPA exhilarating, demanding and stimulating (p.197).

The subsequent Chapters 4,5 and 6 present the findings from the analysis, providing a comprehensive account of the results obtained. The headings of each chapter reflect an overarching theme: 1) A need for meaningful participation after retirement; 2) Adoption and appropriation of digital music technologies; 3) Meaningful participation in instrumental music groups.

4. A need for meaningful participation after retirement

4.1 Introduction

Chapters 4, 5 and 6 present the findings of participant interviews, analysed using the methodological approach, Interpretative Phenomenological Analysis (IPA), as presented in Chapter 3. The findings are presented by themes generated through closely reading participants' interviews. The findings are presented as discrete and idiographic, aiming to focus on the individual experiences of each participant rather than to generate generalisable or objective truth claims. Therefore, the findings in the following chapters uncover the underlying meaning and interpretation of how participants make sense of their experiences of learning and playing musical instruments after retirement in the digital age.

In Chapter 4, two Group Experiential Themes (GETs) and four Personal Experiential Themes (PETs) were identified by conducting an inductive analysis of the participants' interview responses. The organisation and grouping of these themes are presented in Figure 11. It is important to note that each PET in the findings (Chapters 4, 5, and 6) is presented with a corresponding transcript extract or quote from the interviews. These extracts serve as illustrative examples of each theme and are accompanied by detailed analytic interpretations. Transcription extracts and quotes provide concrete and vivid examples of the analysed data. By incorporating these examples, the findings chapters aim to contribute to comprehending the collective meaning conveyed by each theme.

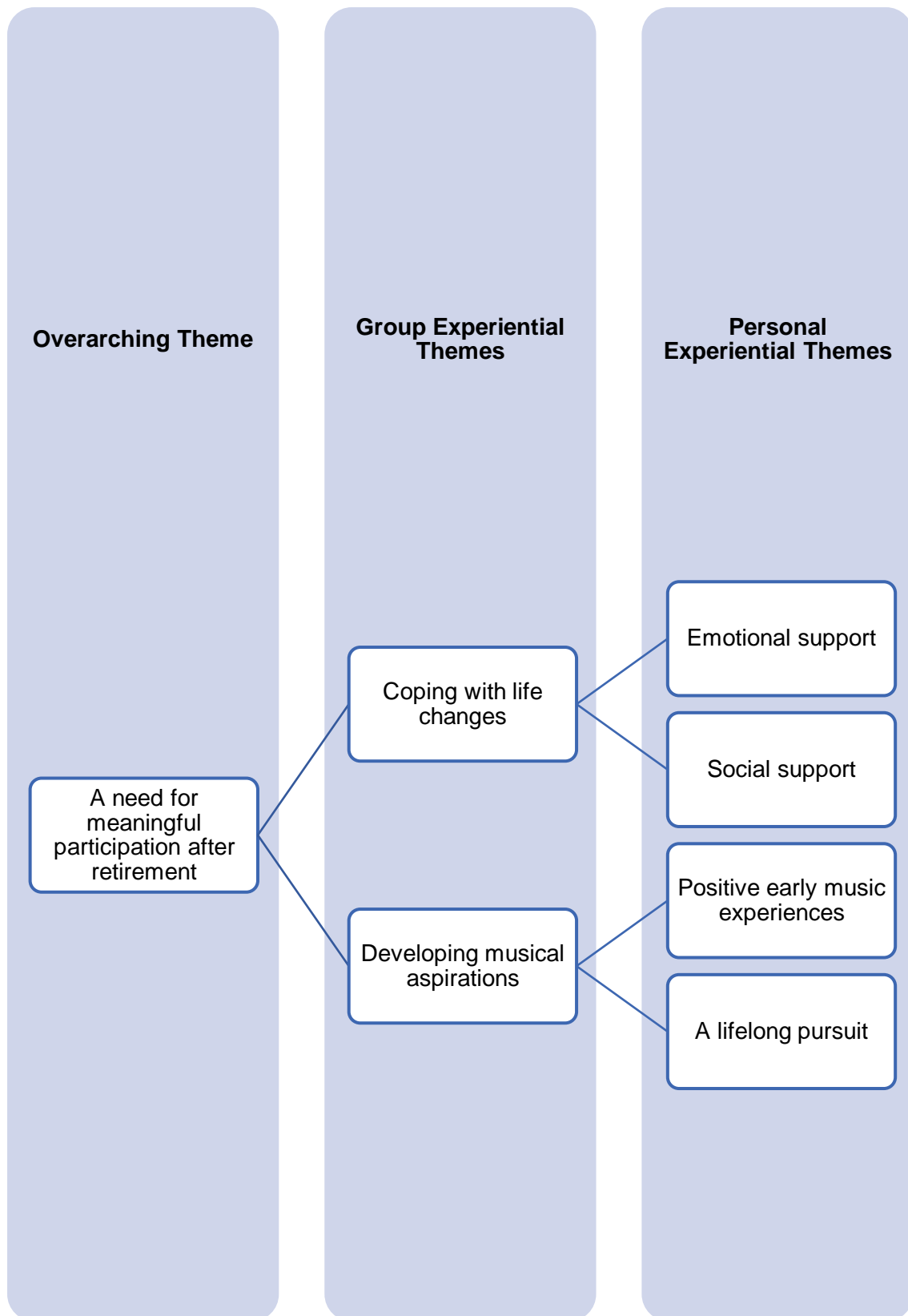


Figure 11: Diagram of the Overarching Theme ‘A Need for Meaningful Participation after Retirement’

4.2 Coping with Life Changes

4.2.1 Background

As discussed in Chapter 2 (see 2.1.3), retirement, a period of non-participation in the labour force or reduced hours worked earning, is a significant life transition that older adults experience (Denton & Spencer, 2009). Retired older adults experience many changes in their daily routines that make them deal with social, physical and psychological consequences (Plawecki & Plawecki, 2016; Stenholm et al., 2016). Retirement can involve multiple forms of loss in life, such as loss of social roles and contacts and partners or family members due to ageing or illness (Fokkema & Knipscheer, 2007; Lee et al., 2014). Retirement is a highly individualised and complex experience, and multiple factors influence psychological well-being in retirement (See Table 2 in Chapter 2). Therefore, previous studies have argued that older adults engage in activities that contribute to life satisfaction in retirement. Among these activities, many seek opportunities to be involved in leisure or educational activities to cope with their life changes (Amorim & Franca, 2019; Nimrod, 2007).

The first GET, 'Coping with Life Changes', considers how participants reflected on the emotional and social adjustments they made in response to retirement and considered learning and playing a musical instrument to cope with these changes. The following PETs deal with the role of emotional and social support in motivating and enabling participants' participation in musical activities.

Emotional support discusses the role that emotional support can play in motivating the participants to participate in their musical activities.

Social support focuses on the participants' expectations of social connections and relationships in enabling and enhancing their participation in musical activities.

4.2.2 Emotional Support

K8 *After my husband passed away, I fell into a deep depression. I didn't know what to do with myself, so I started travelling - going from place to place, trying to find some way to get through the pain. But*

as time went on, I realised that I was wasting my money, as if I might die tomorrow. That's when I knew I needed to make a change - to find something I could do on my own without spending a fortune. I thought about joining a church choir, but the thought of being in such a large group made me nervous. So, I turned to paint and music. I figured I could do both of those things on my own, without any pressure or expectations. I just wanted to be able to lose myself in something for a few hours - to forget about everything else. It turns out it was exactly what I needed. After about three hours of painting or playing music, I found that my head would ache. So, I set a three-hour limit for myself - that seemed to be my sweet spot. Now, when I sit down to paint or play, I know I have enough time to enjoy it. And when the time is up, I can step away feeling refreshed and renewed. (B11)⁹

K8 found learning to play the harmonica and painting emerged as outlets that captured K8's attention and provided a means of occupying her time and diverting her focus from the grief she experienced. Compared to singing in a choir, K8 found playing and painting provided her with a way to engage in personally meaningful activities and allowed her to focus on something positive rather than dwelling on her grief. She stated that she wanted 'to find something I could do on my own'. K8 appreciated the solo aspect of playing a musical instrument because she was not ready to socialise with people in such a large group as a choir. Given that, she believed that learning and playing musical instruments provided her with less socialising circumstances without 'any pressure or expectations'.

Furthermore, K8 elaborated on how the concentration on the activities at hand helped her cope with emotional distress, making them one of the important motivations to continue playing music. K8 spoke of 'I just wanted to be able to lose myself in something for a few hours - to forget about everything else', which can be taken to mean 'flow state' known 'to maximise immediate, intrinsic rewards to the participant' and therefore to increase one's motivation and enjoyment of life (Csikszentmihalyi, 2000, p.21). Her desire to be involved in such a state suggests that her motivation to play the musical instrument was not just recreational but to provide some form of emotional space for the participant to process her

⁹ This code serves as an identifier for the transcript location. Each quote includes the identifier to facilitate easy reference back to the specific section of the transcript for the researcher's convenience and to ensure accurate source attribution.

loss and feelings of distress. Such an experience was highly rewarding and encouraged her to continue playing the harmonica, leading to further improved musical skills and a sense of accomplishment. She stated, 'I can step away feeling refreshed and renewed'. The experience of flow, which motivates people to continue musical participation to promote positive emotions, has been discussed in the research, mostly with young musicians or young students (Heller et al., 2015; O'Neill, 1999).

K9 *I experienced something unfortunate. My wife passed away. I was in despair. It was like I did not want to do anything. After my wife passed away, I felt like nothing was worth doing without her, and I lived in that state without meaning for three or four years. I was smoking and drinking. My friends and church members encouraged me to join their harmonica group, saying things like 'Come out of your shell!' So, little by little, I started to think about taking up hobbies like playing guitar and harmonica, as well as dancing. It was like I needed to do something, anything, to keep myself preoccupied so that I could feel better. (B5)*

Similarly to K8, K9 spoke of his motivation to learn to play musical instruments as rooted in his desire to find meaning and purpose in life after experiencing a significant loss. Acknowledging he was in despair for a few years, K9 recalled that his friends' and church members' advice to engage in activities inspired him to seek opportunities for 'taking up hobbies'. The encouragement to join the harmonica group, described using a phrase like 'come out of your shell', suggests that he initially hesitated to participate in group activities. However, he hoped for a state of 'preoccupation' by participating in music and dance to alleviate despair and hopelessness. While social and cognitive components, such as meeting new people and gaining musical knowledge, are one of the main factors that encourage older adults' musical participation (Sole et al., 2010) as well as children's and adolescents' playing an instrument (Hallam et al., 2016; Costa-Giomi et al., 2005), K9 considered that the emotional benefit of learning to play the harmonica and guitar might provide opportunities for overcoming feelings of despair.

Some studies suggest that social and leisure activities can emotionally support widowhood, suggesting engaging in such activities can provide a sense of purpose and

distraction from grief, as well as opportunities for social connection and emotional support from others who share similar experiences (Patterson, 1996; Standridge et al., 2022). Here, both K8 and K9, whose needs were to cope with emotional challenges due to the loss of their spouses, highlight that their expectations of learning the musical instruments involved the emotional outlet of music, a valuable source of emotional support for those who have experienced widowhood.

K10 *Many people have pets as companions, but for me, my guitar is my 'pet instrument'. I have a husband, a son, and a family, but for the rest of my life, I can't be with them all the time in the same space. A big part of my life has gone, the part that always puts my heart into things. I thought if I learned and knew how to play the guitar, I would carry it around and play it whenever I wanted. The guitar is small enough to bring with me wherever I go, making it the perfect companion instrument. Time goes by so fast, and my husband has also retired and is at home these days. It is not like I would clap with him at home, so you cannot do everything together. (B3)*

Interestingly, K10 portrayed her guitar as 'a pet instrument', associating her musical instrument with pet ownership. This is because K10 attempted to reflect on her musical motivation after retirement with the emotional impacts of retirement. Leaving work for retirement has significantly affected her state, describing as 'a big part of my life has gone', which portrayed a sense of loss for the part of her life that was once full of passion and heart. The illustration of calling her instrument 'a pet instrument' suggests that her decision to learn to play the guitar arose from filling the void and supporting her emotional turmoil during her transition after retirement.

Psychological outcomes vary in retirement, but significant changes in activity levels, for instance, decreased activity commitments and increased levels of sedentary activities, especially during the early transition period, are evident (Jonsson et al., 2000; Rosenkoetter et al., 2001). K10 recognised those changes in activity level, which might affect her physically and psychologically, and considered learning and knowing how to play the guitar beneficial. She used a humorous phrase, 'It is not like I would do clapping with him [her husband] at home', which implies she favoured the use of time in activities to carve out a

space for herself and create a new source of meeting individualised needs. Additionally, K10 pointed out the accessibility of the guitar, which was regarded as one of the essential elements for choosing the instrument. She stated, 'I would carry it around and play it whenever I want'. In that regard, K10 considered the guitar as a means of carrying around a source of comfort and joy that she could turn to whenever she wanted, describing the continuation of playing the guitar as having emotional benefits.

K3 *I retired in 2016 and was receiving a pension anyway, so I have been financially stable. I didn't need to look for a part-time job right away. I found myself walking on eggshells around my wife. I assumed it would be better to be out during lunchtime. She would be more comfortable, too, because she needed to think about what to eat. Because of that, I found myself walking on eggshells around my wife and wanted to find activities that would allow us to spend time apart without causing tension. Then, I started playing table tennis, other sports, and chess. I played table tennis a bit and came across the ocarina. (B14)*

Here K3, similar to K10 above, reported identified challenges he faced in navigating the new lifestyle after retirement, particularly regarding using available time. K3's financial stability provided by his pension allowed him to explore different activities as he mentioned that 'I didn't feel the need to look for a part-time job right away'. However, he repeatedly used the phrase, 'I found myself walking on eggshells around my wife', implying his feeling of discomfort due to changes in his life routine and increased available time. K3 used the word 'Then' to suggest the time when he felt the need to seek activities to cope with the challenges after retirement and the potential strain on spousal relationships. Consequently, K10 began participating in activities like sports and learning to play the ocarina, in which he has been actively involved. His exploration of different activities speaks to the importance of openness to new experiences and a willingness to try new things to discover new interests and passions after retirement.

Following the previous quote, K3 elaborated on how he chose the ocarina as an instrument to learn. He stated:

K3 *In general, I like instruments with beautiful echoes, so I wanted to play such instruments. I found an instrument called the musical saw, which had the beautiful sound I was looking for. I searched for places that could teach me, but unfortunately, I couldn't find any. Then, I came across the ocarina, which was being taught at the community centre. The instrument looked easier to learn, and I thought I could have fun and get something from it. Something that I could make a beautiful sound with it. Something that I could have fun and fulfilment during my free time. (B18)*

The quote above indicates that K3 possessed a specific preference for musical instruments that had 'beautiful echoes'. It is important to note that K3 used the term 'echoes' to convey a deeper meaning related to 'timbre' or 'resonance' within the context of K3's narrative. This preference stemmed from K3's aspiration to create a beautiful sound that brought emotional satisfaction.

K3 initially wanted to learn the 'musical saw' instrument with the sound he sought. The emphasis on the aesthetic qualities of musical instruments suggests that K3 found playing music to be a source of emotional satisfaction and pleasure. However, he turned to learning the ocarina, which was more accessible than the musical saw. As mentioned by K10, accessibility in terms of available time, music instrument learning programme and tuition fees were perceived as significant factors in selecting the musical instrument to learn. As such, even though he wanted to learn because he was interested in the musical saw instrument, it was not accessible due to the rareness of the instrument itself. In the end, he reaffirmed that his motivation to learn to play the ocarina was to 'make a beautiful sound' and 'have fun and fulfilment', which he considered would help cope with the increased available time.

4.2.3 Social Support

Music making is known to be an inherently social activity, and one common motivation for engaging in musical activities in later life discussed in works of literature is social support (see Section 2.2). Some of the specific social reasons are to have a good time with friends, be amongst pleasant people and make friends (Solé et al., 2010). The

perceived expectation for socialisation through participation in music learning programmes was discussed among participants.

K2 *I like music in general, and my motto is to share enjoyment with others, and what's more. I thought it would be pleasant to be in a group of people who enjoy music together and have similar interests. For that reason, I was also a church choir member for a long time. I was really satisfied with it; I thought the autoharp would be similar. I thought I would have more opportunities to play songs with people. (B3)*

In the context of this section regarding motivation for learning and playing the instrument, K2 expressed a desire 'to share the enjoyment with others', which suggests that for K2, music-making was seen as a way to achieve social connection and support. For K2, playing the musical instrument was not just solitary practice but involved group practice in which people play together and 'share enjoyment'. K2 remembered his experience of singing in a church choir as a satisfactory experience that further explained that he believed learning to play the autoharp would be similar to choir experience and would provide more opportunities to play music with others. He stated, 'I was really satisfied with it [singing in a church choir], and I thought the autoharp would be similar'. In the following quote, K2 was asked to elaborate on what he considered the similarity between singing in the church choir and learning and playing the autoharp.

R¹⁰ *About the church choir. Could you tell me more about it? It seems that you were involved with a church choir before learning your instrument.*

K2 *It's been 20 years.*

R *20 years in one church?*

K2 *Yes.*

R *So, how is the choir organised by age group?*

K2 *Well, from the 20s to the 70s together.*

R *So, how was the experience?*

¹⁰ 'R' refers to the researcher/interviewer'.

K2 *We gather at 6 o'clock to practise for about two hours. We attend the 8 o'clock service to sing praises together. I felt a sense of pride that I was living a satisfying life. Hey, I sing my favourite songs, practise, and sing with people with sincere faith, and I serve others by singing them together (B10-18)*

For K2, having been a church choir member for 20 years, the community aspect of singing in the church choir played a significant role in appreciating musical participation. Singing in a choir as a beneficial medium for social interactions among older adults has been much discussed in research (Petrovsky et al., 2015, 2020). Given that, K2 reflected on his previous choir experience, which allowed him to have a sense of inclusivity and community across generations by singing with people of different age groups but with similar religious interests. The experience enabled him to have social benefits and connections, such as meeting regularly with people for practice, attending the service, and singing religious music together. He recalled feeling pride and satisfaction for singing in the choir by saying frankly, 'I felt a sense of pride that I was living a satisfying life'.

Based on his previous experience in the church choir, he expected the social aspect of music-making. As someone who had experienced the benefits of singing in a group, he expected similar benefits in learning the autoharp. Recalling his choir experience suggests that K2's expectation of having similar social benefits from music learning in a group motivated him to learn the autoharp in a group. As such, his experience with the church choir contributed to having similar expectations of learning the autoharp in the group.

K4 *When I was at school, we mainly practised preparing for events. We mainly practised folk songs or marching songs. But now, we don't play those marching songs, right? So, I had to learn songs that I could practise and play alone. But I always wanted to do something as I did at school, not those songs but something I play in the ensemble, playing together. Then, I heard there was a kind of amateur orchestra in my city, a small orchestra... so I joined that orchestra. (B3,4)*

While K2 saw the social benefits of choral singing as a motivator for current musical participation, K4 identified that a desire to play in an ensemble came from a memory of

playing in a brass band during his school years. The desire to 'play in the ensemble' was highlighted by K4 saying, 'I always wanted to do something like what I did at school', which he referred to as the school brass band. By this, he revealed that he wanted to re-engage in what he enjoyed, showing his appreciation for the collaborative aspect of music group practice. Taking that into account, K4 admitted that he joined an amateur orchestra to meet his desire to make music with others, which could be seen as a way to fulfil his desire for social support in his musical pursuits. Given that, K4 saw that his motivation to engage in music-making was rooted in a desire to engage in music-making with others who share their interests and potentially form new social connections. Therefore, K4's quote suggests that a social connection and the opportunity to engage in music-making with others was significant factor in seeking opportunities to join the ensemble.

K10 *My friend I often go to the sports club told me she was learning the ocarina at the community centre. I asked her 'oh, is that fun?' and she told me that I could meet other people who were spending time with music, which she thought was very healthy for people our age. A lot of people do it. I read an article in a newspaper. Because of her, I decided to learn it but not the ocarina. There were several classes, but I did not want the small instrument, but the guitar sounded better for me, and also, there were other people whom I knew, so I thought it would be a group of likeable people. (B3)*

Here, K10 talked about being motivated to learn a musical instrument because of encouragement from her friend, who was also learning the ocarina at the community centre. It is common to participate in activities where there are established social networks. A need for companionship is one of the major motivations to participate in leisure activities (Lazar & Nguyen, 2017). Also, a friend's persuasion to participate in a music learning programme confirms previous literature, which argues that community music practice embraces the social motivation of group music participation (Wristen, 2005). It is noteworthy that K10 perceived socialisation with like-minded people in the music group as an important factor which attracted her to participate in the music class at the community centre. Being part of a community of people with similar interests can provide a sense of belonging and purpose

(Edwards & Owen-Booth, 2021; Lamont et al., 2017). This can be especially important during retirement when social connections may decrease. K10 highlighted social support as a significant motivating factor, providing insights into her initial expectations and reasons for joining the group.

4.2.4 Discussion

As discussed in Chapter 2, retirement is seen as one of the important life phases in that older adults undergo significant changes in their daily routines that can result in social, physical, and psychological consequences (Plawecki & Plawecki, 2016; Stenholm et al., 2016)). Losing various aspects of life, such as social roles and relationships with others, partners, or family members, is particularly noticeable (Fokkema & Knipscheer, 2007; Lee et al., 2014). Participants who retired from their full-time work discussed and acknowledged the changes in their lives, highlighting the emotional and social adjustments they faced after retirement and how learning a musical instrument was perceived as a coping mechanism. Consistent with literature which has discussed musical participation as a source of enjoyment, satisfaction, and social connections (Section 2.3.1), many participants felt the need for emotional and social support as a motivator for their learning and playing musical instruments.

Participants shared their experiences of learning and playing a musical instrument to cope with significant losses or major life transitions. They found that concentration on the activities at hand would help them cope with emotional distress and achieve a sense of accomplishment after retirement. The desire to experience a state of flow while playing music and the motivation to sustain musical participation for the promotion of positive emotions were particularly evident among the participants. Also, some participants perceived active music-making could provide opportunities to focus on something positive. The ability to learn and play music independently and without pressure or expectations, as well as the accessibility of the instrument, were also important factors that encouraged

retirees to pursue playing a musical instrument. As such, participants highlighted the importance of music as a means of emotional support and coping mechanism in retirement.

In addition to the factors mentioned earlier, participants also recognised social support as a significant motivation for learning and playing a musical instrument after retirement. Those involved in music learning programmes expressed an expectation for socialisation through their participation, which was fulfilled through group practice, playing together, and sharing enjoyment. For instance, K2 reflected on his choir experience, which gave him a sense of inclusivity and community across generations and suggested that learning the autoharp in a group would provide similar benefits. Similarly, K4 desired to play in an ensemble and joined an amateur orchestra to fulfil his desire for social support in his musical pursuits. K10 was motivated to learn a musical instrument because of encouragement from her friend and perceived socialisation with like-minded people in the music group as an important factor that attracted her to participate in the music class at the community centre. As such, participants discussed the importance of social support in motivating their learning and playing a musical instrument after retirement. Being part of a community of people with similar interests was considered necessary during retirement when social connections might decrease.

4.3 Developing Musical Aspirations

4.3.1 Background

The second Group Experiential Theme (GET), 'Developing musical aspirations', reflects participants' desire to achieve personal growth through mastering a musical instrument. After retirement, individuals often experience increased free time and reduced responsibilities, allowing them to explore interests and passions (Wang & Hesketh, 2012). Those with financial security that comes with retirement might allow them to pursue their interests that they could not explore earlier in life due to work or other commitments (Martin, 2003; Wang & Shi, 2014). The second GET was identified through participants' reflection on

rekindling their aspirations, drawn from two Personal Experiential Themes (PETs), 'Positive early music experiences' and 'A lifelong pursuit'.

Positive early music experiences refer to how participants' positive experiences with music during childhood or earlier stages of life motivated them to pursue learning and playing a musical instrument in their older age. This PET suggests that early exposure to music can impact one's musical aspirations and interests.

A lifelong pursuit focuses on participants' recognition that learning and playing musical instruments extend beyond being a mere hobby. Instead, it represents the continuation of a lifelong passion and objective. This Personal Experiential Theme (PET) suggests that music holds an important place within participants' identity and self-perception, and pursuing musical aspirations during retirement can offer a profound sense of fulfilment and purpose.

4.3.2 Positive Early Music Experiences

Participants recalled their school years and saw that music learning opportunities or music activities had influenced their motivation for participating in learning activities. Considering that music education practices in participants' school years were far more limited than current school music education in South Korea (Choi, 2007; Choi et al., 2021), participants found their early music learning opportunities unique and considered a solid personal motivation.

K5 *I was in a school brass band because I loved music. I went there by myself and told them I wanted to learn an instrument. First, I learned the clarinet a little bit and later learned the trumpet. Without that opportunity, I wouldn't have been able to experience playing musical instruments. I always thought I could play a musical instrument. (B7)*

K5 described his early exposure to music through his involvement in a school brass band, a positive experience that sparked his interest in playing musical instruments. There are scarce studies or information on school brass bands during South Korea's military regime between the 1960s and 1980s. However, participants' reports and very few news articles evidence that school brass bands existed to accompany military exercises as one of

the subjects for boys' middle and high schools (Lee, 2018). Not all schools had brass bands, but some had brass bands to accompany the regular military exercises with music (Lee, 2018).

K5's recollection of his love for music and desire to learn an instrument highlights his strong motivation to pursue music. The recollection of taking the initiative to join the school brass band and actively seeking opportunities to learn musical instruments underscores his interest in music since school. Through his involvement in the school brass band, K5 developed a positive perception of himself as having musical ability, which was reflected in his statement, 'I always thought I could play a musical instrument'. This suggests that his early musical experiences were empowering and helped shape his musical aspirations. Childhood music experience is one of the compelling reasons for active music-making in adulthood and later life (Flowers & Murphy, 2001; Myers, 1995). K5 recognised the positive impact that his early music experiences had on him, particularly in developing a love for music, personal motivation, and self-efficacy, which had contributed to his current musical participation. K5's reflection on his school music experience also suggests that it significantly generated continued music learning in later life, highlighting the importance of early music education and opportunities for musical exploration in fostering lifelong musical aspirations and participation (Flowers & Murphy, 2001).

The perception of current music participation being influenced by early learning opportunities was evident in the experiences shared by some other participants. In the following quote, K6 highlighted early music learning experiences in shaping their current involvement with music.

K6 *I learned the reed organ at my church probably before I turned 14. I was already able to play it at that age. Then, in my first year of middle school, I learned the clarinet and saxophone in my third year (of middle school). When I moved to Seoul¹¹ for high school, and I was a 'music-specialised student'. It was a pity that it was interrupted for a while when I started working. But, I continued to*

¹¹ Seoul is the capital of South Korea.

play the saxophone as a hobby. I did not go the other way. I think this is one of the little things I can do well or better than others. (B3)

K6's pride in learning to play these instruments at a young age was reflected in his use of the word 'already' when recalling his experience at age 14. Despite a pause in his musical pursuits during young adulthood, K6 re-engaged in learning and playing the saxophone, motivated by the positive experiences and self-belief from his early music experiences. He confidently stated, 'I did not go the other way', reaffirming his self-perception of musical ability that contributed to his continued engagement in learning and playing the saxophone after his retirement.

Studies agree that a positive music-learning experience, especially in childhood, is significant in lifelong learning and engagement with musical instruments (e.g., Roulston et al., 2015). In contrast, negative experiences while learning an instrument, such as dislike of a teacher, disinterest in instruments, and not feeling good enough, might hamper adults' re-engagement in music learning (Roulston et al., 2015). For K6, the ability to play the saxophone positively impacted his self-perception and self-efficacy, leading him to consider playing the saxophone as 'one of the little things that I can do better than others'. K6's reflection also highlights the positive impact of early music learning, which remains a meaningful and enjoyable part of his life, contributing to continued musical participation.

In the following quote, K1 remembered herself as a student with good musical sense by reflecting on her school years.

K1 *When I was in elementary school, my elementary school teacher gave me such a compliment that I learned the syllable names well. It was like Kim Ho-Joong,¹² who became 'Tvarotti'¹³, because of his teacher. When I was in middle school, that music teacher, my music teacher moved from class to class to teach music, and he often taught us how to play rhythms. He praised me for learning and playing them well. Then, when the music teacher played melodies in high school, we had to listen to and memorise them. That was like a*

¹² Kim Ho-joong is a Korean classical crossover singer and tenor.

¹³ 'Tvarotti' is a compound word (Trot and Pavarotti) used as a nickname for a crossover singer Ho-Joong Kim.

test; even in those tests, I received high grades and compliments. Because I was like that, I wanted to learn the piano. (B3)

K1 immediately reminisced about her teachers' positive verbal feedback and satisfactory grades in music subjects, which she found related to her music learning in later life. First, K1 referred to a famous crossover artist known for becoming a singer due to his high school teacher's encouragement to highlight that the influence of positive verbal feedback might serve as a motivating factor for her pursuing music. K1 said, 'It was like Kim Ho-Joong', likening the singer's famous story¹⁴ to K1's school years, which highlights receiving compliments and praise from music classes as an important source of belief in her musical ability (Bonshor, 2017). Likewise, she found that high grades in practical tests were another significant source of identifying and reinforcing her belief (Hallam et al., 2021). K1 reaffirmed that her motivation for learning the piano was due to a desire to continue developing her musical skills, saying, 'Because I was like that, I wanted to learn the piano'.

Once she began playing the piano, she regarded music as her 'speciality', a unique and significant aspect of her identity considering the time of her youth. These positive musical experiences in her early life helped nurture a sense of self-efficacy in music and sparked her interest in learning a musical instrument. K1's narrative highlights the profound influence of positive verbal feedback, high grades, and a sense of self-efficacy on her continued engagement with music. These experiences shaped her motivation and desire to pursue music as an integral part of her life journey.

K7 *I have a vague memory of having a harmonica when I was in primary school. As you know, back then, it was rare for students to own even one instrument. Despite not having much music knowledge, I was proud of having the harmonica, and the memory has stayed with me for a long time. Since then, maybe? It has become a deep-seated memory that I can't forget, even though I don't consider myself very musical. (B43)*

¹⁴ 'The singer's real-life story inspired the 2013 film 'My Paparotti', which tells the story of a troubled child who wants to be a tenor. Kim joined a gang at a young age but left to build his musical career after his talent was discovered' (Kwak, 2020).

Here, K7 recollected her emotion associated with the pride and joy of owning a harmonica in primary school, which was described as a deep-seated memory that had stayed with K7 for a long time, even though she considered herself 'not having much music knowledge'. The ownership of a musical instrument in K7's primary school years was associated with feelings of pride and joy, which suggests that the experience played a crucial role in motivating K7 to engage with music later in life. Although K7 did not have opportunities to be involved in formal music tuition, she perceived that this earlier memory drove her interest in harmonica. She recalled, 'That memory has stayed with me for a long time'. In the quote, K7 asked herself, 'Since then, maybe?' reaffirming that her strong and positive memory related to the harmonica was related to her interest in learning the harmonica after retirement. K7's recollection of her emotions highlights positive early music experiences in shaping her attitudes towards music and the lasting impact of such experiences on her life.

K3 *I was able to play the pipe a little bit. I did not learn it formally. I remember I just played for fun. And then, I learned about the harmonica. I still have it, but I am not learning from someone. It was like being self-taught. I learned by myself just by playing easy songs like C-Major songs. I kept seeking opportunities to learn a musical instrument. (B11)*

In common with other participants, K3 in the quote recalled a positive experience playing the pipe and the harmonica, even without formal training. K3's interest in music was driven by the desire to learn and explore more about musical instruments. K3 considered the early experience of playing musical instruments like the pipe and the harmonica 'for fun', which sparked an ongoing desire to learn and improve musical skills. This motivation was further strengthened by K3's self-taught approach to learning the harmonica. Notably, K3 mentioned being able to play 'easy songs like C-Major songs', which marked a successful milestone and instilled a continued drive to seek opportunities for musical learning, which was reinforced by his self-taught approach to learning the harmonica.

After his retirement, this positive experience motivated him to 'seek opportunities' to learn a similar instrument like the ocarina. He reaffirmed that 'I kept seeking opportunities', which indicates his interests started early, and his interests in learning musical instruments continued throughout his adulthood. The joy and pleasure that came with early music experiences led him to a desire to learn and explore more about music, which had a lasting impact on his musical development. K3 reflected on how positive early music experiences contributed to his continued interest and motivation in music. The joy and pleasure he described from early music experiences led to a desire to learn and explore more about music, which significantly impacted his current musical engagement.

4.3.3 A Lifelong Pursuit

While participants acknowledged their preference for music throughout their lives, playing a musical instrument, either in an ensemble or solo, was manifested as participants' lifelong pursuit. This, therefore, has become an important factor in motivating their engagement in learning and playing musical instruments after retirement. It is worth noting that this theme differs from the previous theme, 'positive early music experiences', which focused on participants' early positive encounters with music as a motivating factor. In contrast, the present theme emphasises participants' aspirations for mastery of their chosen musical instruments as an ongoing and lifelong pursuit.

K8 Music... it is like I have always made music. I wanted to learn the piano when I was young, but I have short fingers, especially the pinky. It really hurt when I was trying to stretch my fingers. That was my excuse for not starting the piano. That was all. And then, I wanted my daughter to learn the piano. She seemed talented, so I sent her to a piano academy. [...] She did not continue. I was sure she had potential, but maybe she didn't want it. Then, I was thinking, maybe I could learn piano someday. I watched my daughter practise and picked up some things, but with work and raising my children, I never had the time to start. (B5)

K8 described music as something she had always made, highlighting music as a process rather than an object (Small, 1999). In turn, this suggests that her lifelong interests

lie in active music engagement. Within the context of the quote above, K8 expressed regret at not learning the piano at a younger age, deemed an unfinished aspiration. She stated that she initially wanted to learn the piano when she was young but did not pursue it due to physical constraints. That shade of regret became entangled with the story of her daughter not wanting to continue playing the piano and having professional and family responsibilities even if she wanted to learn the piano. Here, K8 appeared somewhat disappointed that her daughter gave up playing the piano. She stated, 'I was sure she had potential, but maybe she didn't want it'. K8 began picking up some insights into piano playing by observing their daughter's practice sessions. However, the demands of work and the responsibilities of raising children left little time to embark on their musical journey. For K8, these recollections of past occurrences were implicitly manifested as an incomplete task, which she attempted to consider as a motivator of her current music learning.

K9 *I wished to make music well. I wished I had time to learn music, or I wished I could play something. I thought I didn't have any musical talent, and when I saw others playing or singing beautifully, I wished I could do the same. Even my grandkids are already learning the violin! Those little kids are playing (laugh). It's amazing how much the world has changed. My grandkids can play the violin from a young age and have talents. When I was young, there were no opportunities for musical instruments like there are now. But finally, I'm learning! (laugh). (B7)*

K9's desire to 'make music well' is evident throughout the quote, repeating, 'I wished'. Similarly to K8, K9 used the phrase, 'make music', which implies his interest was also active music making. However, his wish was not just to 'make music' but to 'make music well', and he expressed regrets about not having opportunities to learn music, which led to his self-perception as lacking 'musical talents'. By giving examples of people 'playing or singing beautifully' and his grandchildren who were already learning the violin, K9 highlighted a desire to have the time or opportunity to learn musical instruments like those people and his grandchildren. K9 reaffirmed his regrets, 'There were no opportunities for musical instruments', suggesting his desire to learn music had been present throughout his

life, but external factors prevented them from pursuing it earlier. However, his decision to finally learn an instrument after retirement was demonstrated by saying, 'But finally'. This phrase reflects that his continued motivation to pursue his musical aspirations was fulfilled by having learning opportunities after retirement.

K5 *I never had the chance to play the trumpet when I was working. I was just too busy all the time. But the desire to play never left my heart. I always knew that music was what I truly enjoyed. So, after retirement, I made the decision to pick up the trumpet again. I thought it would be fun and bring me joy. (B19)*

Alongside K5's early music learning experience (discussed in the previous section), K5 expressed the long-cherished desire to play the trumpet despite having yet to have the opportunity to do so while working. Unlike K8 and K9, who expressed regrets about not having opportunities to learn musical instruments, K5's desire to play the instrument persisted within him. K5 described learning to play the trumpet after retirement as re-engaging with something he had always enjoyed but was interrupted due to work. The motivation behind this choice was the anticipation of having fun and experiencing the joy that music had consistently brought into their lives. This quote reflects how retirement is perceived as a window of opportunity to re-engage with one's passions, fulfil lifelong desires, and embrace music's enriching and joyful aspects.

4.3.4 Discussion

In analysing the theme 'Developing musical aspirations', participants' deep-rooted desires to master musical instruments in their retirement are explored, revealing a complex interplay of factors motivating their musical pursuits. The first Personal Experiential Theme (PET), 'Positive early music experiences', highlights the profound impact of early encounters with music on participants' motivation for engaging with musical instruments later in life. Some participants strongly recalled their early music learning experiences as positive and memorable. They found that positive experiences with music in their earlier years contributed to their continued interest and motivation to learn a musical instrument later in

life. While looking back, participants found positive early experiences of music better, between receiving compliments from teachers and feeling proud of playing an instrument, had an impact on their motivation to continue learning and playing musical instruments. Also, learning musical instruments through school music activities or possessing accessible musical instruments was perceived to foster self-efficacy in music, which drove interest in lifelong learning and engagement with musical instruments. Consistent with the works of previous studies (Roulston et al., 2015; Flowers & Murphy, 2001; Creech et al., 2014), childhood music experiences, especially positive ones, presented compelling reasons for active music-making in participants' music participation in adulthood and later life. Participants' reflections on positive experiences of music suggest that their motivation for learning and playing instruments after retirement was driven by a desire to acquire new skills and reconnect with the sense of self-confidence, enjoyment, and personal fulfilment they experienced earlier in life.

The second PET, 'A lifelong pursuit', delves into participants' recognition that learning to play a musical instrument was opportunities for learning to play musical instruments were limited during their earlier lives (Diaz Abrahan et al., 2019). Despite harbouring regrets about not pursuing their musical aspirations earlier, retirement allowed them to reignite their desires to learn and play instruments. Some participants highlighted learning musical instruments as a lifelong pursuit that could achieve personal growth through mastering a musical instrument. Learning new skills and developing new knowledge through music-making was considered a fulfilling experience, and participants' life after retirement was considered an opportunity to devote more time and resources to pursuing their interests. In this context, participants found that their desire for lifelong pursuit played a significant role in re-engaging with musical participation that was often missed during their earlier lives. As such, for participants, retirement was seen as a time for fulfilling their long-cherished desires and exploring a sense of self, which was held by professional and family duties.

4.4 Conclusion

This chapter has highlighted the musical motivations of participants during a significant phase of their lives, which can have social, physical, and psychological implications for older adults. Musical motivation is a complex process that involves multiple factors, as manifested in the evidence provided by the interview participants. Moreover, participants reflected on their motivations for learning and playing musical instruments to participate in meaningful activities that would benefit their lives after retirement. For participants, meaningful participation was manifested as active involvement in music to cope with life changes and fulfil their lifelong interests through learning new instruments or returning to music after years of non-participation.

Through their narratives, participants reflected on the emotional and social adjustments needed to cope with the various changes brought on by retirement, including multiple forms of loss such as social roles, contacts partners, or family members due to ageing or illness, which could lead to feelings of isolation and loneliness. Participants had high expectations for music learning and playing, hoping that learning to play musical instruments would help them cope with these changes and achieve emotional and social adjustments. They perceived that participating in music could promote social connection with others who share similar interests and form new social connections and significant emotional benefits through experiencing creative expression and enjoyment.

For some participants, positive experiences with music earlier in life were a solid motivator to re-engage with music after retirement. The recollection of enjoyable experiences, such as playing in a school brass band or singing in a choir, helped cultivate a sense of musical identity and ability. These positive experiences from their youth motivated them to pursue music again after a long working life, enabling them to reconnect with their musical interests and identity. Through their engagement with music, participants sought purpose and fulfilment.

On the other hand, the lack of music education opportunities in earlier life and their aspiration to develop musical skills also significantly motivated them to engage in music

learning after retirement. Limited access to music education led participants to pursue a lifelong passion and develop new skills in later life. Learning music was also seen as a way to maintain cognitive function and keep their mind active, providing a sense of achievement and self-esteem, which had the potential to benefit participants' well-being.

Building on these findings, the following chapter (Chapter 5) delves deeper into how participants engage with digital music technologies. By exploring the intersection of traditional musical learning and digital technologies, Chapter 5 offers a more comprehensive understanding of how older adults navigate their musical journeys in the digital age.

5. Adoption and Appropriation of Digital Music Technologies

5.1 Introduction

This chapter explores the second overarching theme, 'Adoption and appropriation of digital music technologies', by analysing the interview data of ten participants (i.e., the same as before – not different people). Six Personal Experiential Themes (PETs) were identified and categorised into three Group Experiential Themes (GETs) (see Figure 12). In order to help participants elicit a 'thick description' (Douglas et al., 2015, p. 6) of digital technology, photographs of smartphones, computers, the Internet, tablet PCs and other devices (Appendix C) that commonly represent digital technologies were used as interview prompts (Section 3.3.3.2).

In addition to demographic information, participants were asked about their ownership of digital devices, with all ten participants reporting ownership of smartphones, personal computers, and music-related devices. Table 9 provides a detailed breakdown of participants' ownership status of these digital devices, highlighting their prevalent use among participants. It is important to note that, as mentioned in the introduction chapter, this thesis refers to 'digital music technologies' as any technology, application, and device that allows people to interact with music digitally, including any online streaming services, social media platforms, music-related mobile applications, tools, and devices in relation to music use (Krause & North, 2015; Mao & Good, 2018).

Table 9*Participants' Ownership of Digital Devices*

Participant	Main instrument	Smartphone	PCs	Other music-related devices
K1	Autoharp	Y	Y	Radio/CD player
K2	Autoharp	Y	Y	Radio/CD player
K3	Ocarina	Y	Y	Bluetooth speaker
K4	Saxophone	Y	Y	-
K5	Trumpet	Y	Y	-
K6	Saxophone	Y	Y	-
K7	Harmonica	Y	Y	-
K8	Harmonica	Y	Y	Microphone
K9	Acoustic guitar	Y	Y	Radio/CD player
K10	Acoustic guitar	Y	Y	-

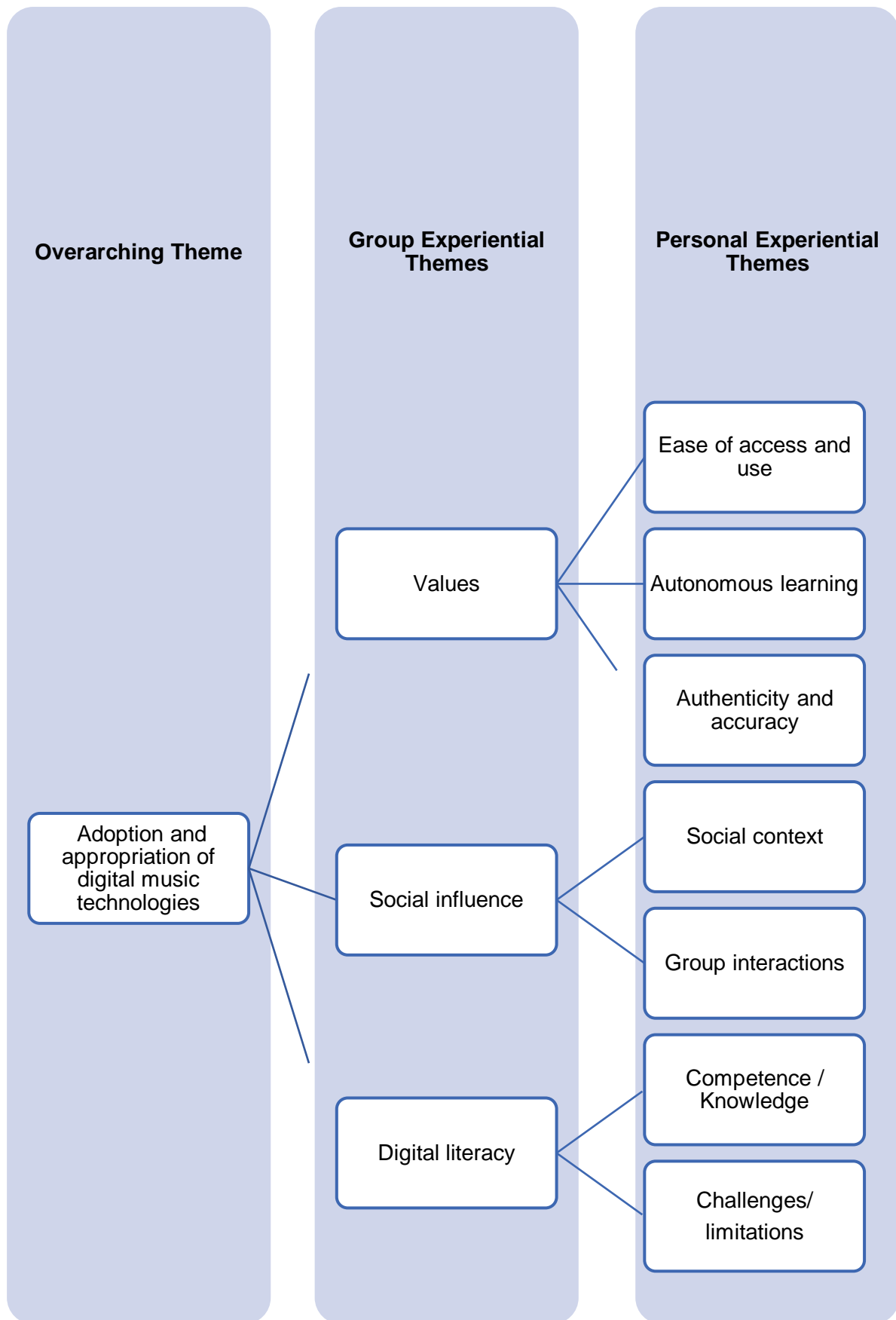


Figure 12: Diagram of the Overarching Theme 'Adoption and Appropriation of Digital Music Technologies'

5.2 Values

5.2.1 Background

Given the evidence in the literature regarding the use of digital devices and software among older adults in the current phase of digitalisation (Miquel-Romero & Montoro-Pons, 2017), it is argued that emerging technologies have the potential to enhance the musical experience in innovative ways (Himonides & Purves, 2012; Krause & North, 2016; Magaudda et al., 2021). In this context, at the beginning of the interview, participants were not asked about the specific types of social media platforms (e.g., YouTube, Facebook, Kakao Talk¹⁵), along with the names of mobile applications or websites. This approach was taken to avoid making assumptions and encourage participants to guide the discussion in a meaningful direction. Accordingly, the theme ‘values’ of utilising digital music technologies emerged from participants’ reflections on adopting and appropriating digital music technologies such as YouTube and mobile applications for meaningful music participation.

Having rich musical offerings, YouTube has become a more important medium for accessing music than any other digital or analogue media for listening to and creating music (Hanson, 2018). Social media platforms such as YouTube, which aims to provide easy and open access to information, leads to its use in a wide variety of formal and informal music education settings (Hanson, 2018; Marone & Rodriguez, 2019; Schmidt-Jones, 2021; Serdaroglu, 2020; Stowell & Dixon, 2014). While some scholars suggest that the preference for adopting and using traditional media is likely to be attached to age (Taipale et al., 2021), participants in this thesis were still able to identify the value of using digital music technology for their music practice.

The first Group Experiential Theme (GET), ‘Values’, deals with three Personal Experiential Themes (PET)s:

Ease of access and use discusses instant access to music resources and content.

¹⁵ KakaoTalk, commonly called KaTalk in South Korea, is a mobile messaging app for smartphones operated by Kakao Corporation (Wikipedia, 2022).

Autonomous learning focuses on using YouTube to support and empower self-directed learning.

Authenticity and accuracy focus on participants' concerns about the quality of musical sources available on YouTube.

5.2.2 Ease of Access and Use

K3 *What I like about the smartphone is that it can send text messages to people. Well, that is important. But for music, I can use it for music. I don't upload videos as young people do, but I can instantly go there and find the music I want. I have to practise melodies. I need to get used to those melodies before learning new songs. We don't always learn familiar songs. So, I need to listen to them again and again before practising the songs. If I don't do that, it makes it difficult. (B64)*

Acknowledging a smartphone as an essential communication means, K3 expressed his appreciation for the ease of access and use of digital music technology, specifically on his smartphone. The YouTube app was utilised to listen to and learn songs for the ocarina. This suggests that technology has become an important tool for him to support his music practice. K3 was also aware that YouTube was not just a mere reference platform but a user-generated platform stating, 'I don't upload videos as young people do'. But K3 described the importance of repeatedly listening to and practising melodies before learning new songs. As such, YouTube's instant accessibility of music resources allowed him to 'instantly go' and 'find the music' of his needs. This instant accessibility enabled him to establish his way of learning to play new songs on the ocarina, such as repeatedly listening to new songs in order to 'get used to those melodies' before actually playing the melodies on the ocarina.

The importance of ease of use in the adoption and acceptance of technology, which refers to 'the degree to which a potential technology user believes a system will be free of effort' (David et al., 1989, p. 320), is much discussed in technology adoption models (e.g., TAM). Having a portable device like a smartphone enabled participants to easily access the breadth of available music resources, leading to its use for learning new songs before

learning to play them on their instrument. By the same token, K5 unfolded his approach of using YouTube to learn about songs and watch instrumentalists' performances.

K5 *So, there are a lot of things that are related to my musical taste. These days, it shows many things about BTS¹⁶, so I automatically watch them. I could listen to those young people's music. Ah, they like this kind of music, not only Koreans but people from other cultures. It is fascinating. I like religious music, classical music, old popular songs, and popular Korean songs... I might watch music just like a circus, but my taste is different from that.*

R *In what way?*

K5 *I like religious music... like Buddhism and Catholicism. When I go to YouTube, there are usually many things that YouTubers have uploaded. For the music side, there are things that I want and need, like new songs that I learned or learned before or techniques. I say, 'Oh, I like it', then I subscribe to it. After I subscribe to it, and if that person uploads something new, it appears, and then I watch it. (B73-9)*

Having musical interests from K-pop to classical and religious music, K5 discussed his musical taste and how he used YouTube to find and watch music videos that aligned with his diverse musical tastes. K5 referred to YouTube as a convenient and accessible medium for discovering and watching music videos he could use to learn new songs, illustrating as 'show[ing] us many things about BTS'. Given that BTS is a South Korean K-pop boy band that has gained global popularity and recognition, YouTube enabled him to connect with the latest cultural trend, which he described as 'listening to those young people's music', which allowed him to develop his musical taste easily.

K5 also expressed his appreciation for various genres of music, including religious music, classical music, and old popular songs with the phrase 'a little different' musical taste. He claimed that the accessibility of a full spectrum of different music genres through YouTube satisfied his interests. At the same time, K5 appeared concerned about the burgeoning musical content available via YouTube, which caused him to passively

¹⁶ BTS, also known as the Bangtan Boys, is a South Korean K-pop boy band formed in 2010 and debuting in 2013 under Big Hit Entertainment. They have gained immense popularity worldwide, winning many international awards (Wikipedia, 2022).

experience music, stating, 'I might watch music just like watch a circus'. This metaphor shows he distinguished his approach as a more meaningful and intentional experience with the music he listened to rather than just casually browsing for entertainment.

Moreover, while acknowledging his interests in various genres of music, YouTube was perceived as a place where he could find what he wanted and needed, saying, 'For the music side, there are things that I want and need'. K5 used the phrase 'go into', similarly to K5, as an illustration of his embodied experience (Merleau-Ponty, 1945) in connecting to virtual space, where he gained access to various musical resources. As a learner, K5 highly valued the accessibility of this new ecosystem of musical resources on YouTube, as it enabled autonomous learning. In particular, K5's description of how he used the function of subscribing to music tutorials highlights the accessibility of the saxophone performances and how-to videos on specific techniques. K5 plainly described its accessibility: 'After I subscribe to it, and if that person uploads something new, it appears, and then I watch it'.

The following two quotes by K2 suggest how digital technologies have provoked significant changes in his music practices, which evidences the ease of accessing music resources via music applications.

K2 *When I was young and growing up, there wasn't much TV, so radio was the main medium for my cultural activity. So, I grew up listening to the news on the radio, listening to music, learning songs, and experiencing various kinds of knowledge about how the world works. I liked the music on the radio... The music on the radio was the only music I could listen to at that time... There were the melodies... from those programmes. I didn't know what the melodies were. Just listening. I was sleeping with it, putting it next to my ear. That's how I got closer to the music and became more familiar with it, I guess. (B57)*

K2 *I can listen to songs that I want. If I go into my mobile phone and go in there and type, for instance, the name of a singer or a song... And it immediately shows me the songs by that singer. Yes, yes, that is right. I search for a singer, or I type in, for instance, 'Destiny Symphony'¹⁷ and a window pops up with a list of them. Then I*

¹⁷ In S. Korea, Beethoven's Symphony No. 5 in C Minor is commonly referred to as the 'Destiny Symphony'.

choose from the list with just one touch, or... if I want to listen to other songs, I search for another and look! I can listen to another one. (B73)

K2 recollected his music experience, starting with the radio, which was the primary medium for cultural activity during their youth in the first quote. Then, in the second quote, K2 appreciated the ease of access and use provided by his smartphone, which allowed him to quickly search for songs or singers he wanted to listen to with just one touch. This convenience was important to him as it allowed him to easily listen to a variety of music and explore new songs or artists.

These two quotes suggest that the adoption of smartphone-based music platforms has evolved with a reconfiguration of listening practice, which has shifted to more exploration according to one's musical needs. Magaudda (2021) proposes to recognise the shift in music listening, 'technology-as-material-artefact to technology-as-infrastructural-interfaces' (p. 241), meaning 'Music listening tools have increasingly turned into interfaces through which people primarily interact with larger networks, platforms, and infrastructures' (p. 241). Magaudda (2021) highlights the crucial role of media platforms in reshaping a wide array of human activities as digital technologies since the 1990s have dramatically changed music practices and listeners' routines. In the second quote, K2 described his music-listening practice on YouTube, where he searched for singers or songs and selected videos from the search results. K2 acknowledged the immediate fulfilment of his needs by stating, 'And it [YouTube] immediately shows me the songs by that singer'. This accessibility provided by YouTube allowed him to explore and enjoy music easily.

K2 perceived that selecting from the list of music that 'pops up' with 'by just one touch' suggested the perceived accessibility of YouTube that made him continue to utilise it for his music listening practice. The actual demonstration of a search for music on YouTube with his mobile phone showed how instantaneously the search took place. Showing thumbnails of his YouTube search results exclaiming 'look' manifested his satisfaction with the instantaneity and ease of access to music resources.

In the following excerpt, K7 identified herself as an avid user of YouTube and acknowledged the accessibility of YouTube.

K7 *YouTube is a part of my life. More than 50 per cent of my daily routine is with YouTube. I want to get those current affairs shows and things from those tweezer¹⁸ lectures, something like that. The next thing is, before I select music, YouTube pieces music together so well that I can listen to music that I search for, like 'relaxation music' or 'classical music'. I click and get everything.*

R *You mean that you type in a specific theme or select from...*

K7 *Mostly, I type in music that I want to listen to or watch. For instance, classical music for the morning and music for walking. Then, things pop up right away. So now I click, go in and listen to them right away. (B61-63)*

K7 enthusiastically reported how YouTube had been an essential part of her daily routine, stating, 'More than 50 per cent of my daily routine is with YouTube'. K7 further invoked that YouTube enabled her to be well informed of current affairs and to get knowledge of subjects related to her interests. This justification demonstrates the affordances of YouTube in her life. Additionally, K7 appreciated YouTube's easy access to music, further emphasising its convenience.

For music practice, K7 described in more detail how she utilised it for listening to and learning about music. Reporting on listening to an uploaded music collection, K7 appreciated the availability of a music list under a specific theme, saying, 'YouTube pieces music together so well', implying the use of customised playlists created by individual (or uploaders') tastes. She found YouTube an easy and convenient way to access music, as she could type in what she wanted and get immediate results. The affordance of listening to the customised playlists is illustrated as 'click and get everything', which was expressed similarly later in the quote above as 'things pop up right away' or 'click, go in and listen'. Unlike K2, who reported typing in the specific name of the singer or music to select the

¹⁸ The term 'Tweezer' is a Korean expression referring to lectures that effectively teach students by emphasising key points, especially for tests.

music he wanted, K7 preferred having instant accessibility of curated music based on certain themes. The accessibility could be considered an important factor in perceiving usefulness in music practice through YouTube, making it her regular music platform. As such, ease of access was likely a key factor in why she has extensively incorporated YouTube into her daily routine.

K1 *Ah, back in the day, when there was no mobile phone, I had to go to a music concert, which was so complicated for me, as you know. Busy life, I wanted to go from time to time but needed help. So, I didn't come across that kind of cultural life. Honestly, I couldn't. But now, I lie in my bed and listen to music or watch concerts. Listening to and enjoying the cultural life makes me think I live in this great world. I can't tell you how exhilaratingly happy it is to live like Twilight while enjoying the benefits of the culture I can experience in this world. (B65)*

Recollecting past years when she wanted to go to a music concert, K1 here excitedly talked about watching music performances through YouTube. K1 pointed out that being physically present at music performances was 'complicated' due to her busy life despite her desire. Similar comments were made by other participants (K2 and K7), where they briefly talked about regrets for not being able to engage in these kinds of cultural life, such as attending concerts or participating in music activities. For instance, K2 pointed out, 'While I was working hard, I did not have a chance to go to concerts or enjoy live performances (B58)', and K7 recalled, 'Compared to now, I guess I did not turn around to enjoy cultural life (B43)'. These quotes from two other participants resonated with K1, who wished they had enjoyed music performances during younger adulthood.

Continuing with 'But now', with the ease of access and use provided by digital music technologies, K1 spoke of enjoying cultural life from the comfort of her bedroom. She noted that she could listen to music or watch concerts whenever she wanted, which gave her a sense of exhilarating happiness and made her confess that 'I live in this great world'. K1 used the expression 'lie down on my bed', illustrating the collapse of physical distances and

constraints through interconnectivity, which operates as 'the egalitarian potential of the digital communication' (Davidson & Poor, 2018, p.1464).

Given that the significant barriers to musical engagement among older adults are physical constraints and lack of time and money (Sloane-Seal & Kops, 2010), the potential for reducing the constraints on older adults' music experience through interconnectivity is seen as promising. Participants perceived this egalitarian attribute within the YouTube platform as equal opportunity access. This is particularly significant for vulnerable groups who often encounter challenges associated with the inaccessibility of facilities and learning resources when participating in musical activities (Hallam et al., 2016). Moreover, K1 expressed the enjoyment of spontaneous access to a wide range of musical materials on YouTube.

5.2.3 Autonomous Learning

K10 *In my case, Melon¹⁹ or something like that. I set it up so I can listen to the songs I want to listen to at any time without any restrictions, but I watch YouTube more than that. I use it a lot when I listen to music. Also, YouTube has many things for guitar techniques.*

R *Learning the guitar techniques videos on YouTube, you mean.*

K10 *Yes, there are many things I can learn on YouTube as a beginner. What I do is that I learn specific skills from good people. As I say, I type in, and then those videos show immediately. I watch how they play. Yes, I watch and then replay them. I listen and watch again and again. I search for another one or another version. I want to find something more useful. Or I watched a different version, as I could find something right away from the search list. I say, 'Ah, this person sounds so good and plays like that'. This way, I could learn because I had to advance to Level 2. So, I got help like that. I tried to sound like those people and play like them. Then, I made progress by myself. (B11-13)*

K10's discussion highlights her experience learning from watching tutorials or performance videos on YouTube, which she perceived as offering a wider range of content for learning guitar techniques. K10 used the phrase 'I type in, and then those videos show

¹⁹ Melon is a South Korean online music store and music streaming service introduced in November 2004 and developed by SK Telecom (Wikipedia, 2022)

right away' to describe the benefits of instantaneity, which led to learning from available exemplars. This accessibility allowed K10 reflective opportunities by ad hoc control over videos, mostly used for replaying certain parts of the videos. K10 suggested her progress was made by repeating to watch different exemplars. This accessibility via YouTube allowed K10 an enhanced autonomous role in learning according to her needs and further engendered her achievement, which fit with the idea that self-directed learning is considered an essential attribute in older adults' learning and contributes to lifelong learning (McGrath, 2009; Knowles, 1980).

Studies have highlighted that instrumental instruction videos on YouTube are predominantly aimed at beginners for improving technique-based musical objectives (Kruse & Veblen, 2012; Liikkanen & Aman, 2015). K10, as an intermediate-level guitar player, also found satisfaction in learning through watching instructions videos or the guitar performance exemplars, confidently professing, 'I made progress by myself'.

K3 *Look here... (Showing his YouTube screen) there is music, songs like 'The Queen of Silver'. Here are some songs that were unfamiliar to me, like I've never heard before... It took a lot of work to play those songs. Even though I have sheet music or MR²⁰ in front of me, the melody somewhat runs through my head when I listen to music and watch people play. Even if I hadn't heard songs like Trot before, I practised and could play even if it was the first time; they gave me the music score. So, I use it a lot. I feel like YouTube helps me learn songs more easily. (B64)*

K3 appeared to be excited to show the researcher songs available via YouTube. Those songs were mainly songs that he was now able to play on the ocarina. K3 saw the value in the form of an audio-visual presentation that YouTube could facilitate by allowing him to learn about unfamiliar songs. The audio-visual presentation enabled by YouTube enhanced K3's music instrument learning experience, which allowed him to internalise the melody and learn the songs more easily. K3 said, 'When I keep listening to music and watching people play', describing the iteration of watching exemplars of instrumental

²⁰ Abbreviation for Music Recorded. It refers to music recorded only by instruments without the singer's main melodies.

performance. This iterative cycle of audio-visual presentations helped K3 to become familiar with the songs to the extent that K5 metaphorically described it as ‘The melody is somewhat running through my head’.

Moreover, K3 highlighted his desire for a more autonomous learning experience as he sought resources that enabled him to learn independently without requiring extensive guidance or instruction. K3 valued learning at his own pace. He noticed that he could practise and learn even if it was his first time encountering a particular song or piece of music. K3 expressed confidence, stating, ‘I practised, and I could play, ‘illustrating his belief in his ability to learn songs readily available on YouTube. This sense of freedom and flexibility in learning aligns with the support for self-directed learning provided by digital music technologies.

K10 *Now I use YouTube to see what and how other people are playing...uh...it's video. I have sheet music, but I learn a lot from watching others play and which chords they use. In any case, I refer to those videos a lot. I think I watch a lot of YouTube videos. Because it's the COVID era now, it isn't easy to go and learn from someone else. I can keep learning and practising, and watching videos with many details help me practise. So, I watch many videos, and there is an App called 'BAND'²¹ where people post their videos, and I also learn from them. (B69)*

Learning from watching exemplars was also discussed by K10. Similarly to K5, K10 valued YouTube’s ability to provide numerous exemplars that she could select from according to her curiosity and need. It is worth noting that K10 mentioned having sheet music, but she added the contrasting conjunction ‘but’ to emphasise that her learning process extended beyond reading musical notation. K10 found value in observing how others played and the chords they used, indicating that the accessibility of performances and tutorial videos on YouTube were frequently and enthusiastically used as a reference. She mentioned, ‘I refer to those a lot’, highlighting the perceived benefits in her learning journey.

²¹ BAND is a mobile community application that facilitates group communication, created by Naver Corporation (Wikipedia, 2022)

Given that the COVID-19 pandemic caused limitations or even suspension in face-to-face musical learning and engagement, K10 alluded that watching videos was used, to some degree, as a substitution for a face-to-face facilitator. In K10's experience, the availability of musical sounds and vision exemplars played a significant role in supporting autonomous learning, so accessing vast resources and tutorials was seen as a portal to more comprehensive musical sources that produced a multi-sensory learning experience.

K5 *I use an accompaniment system that is something like accompaniment.*

R *Is it a type of app?*

K5 *I download it, or you can use the system itself. Little things that I can manipulate. It is usually for saxophone, but since the trumpet uses the same scale as the tenor saxophone, so I can use it.*

R *When do you practise?*

K5 *Yes, only when I practise alone...there is no piano accompaniment. Otherwise, I have to play melodies only. The accompaniment helps me keep practising and motivates me to practise more. In the old days, we needed a record or tape, but now I can download those things I want and practise with them. As you know, we cannot gather as often as before, so this is something that keeps me playing and having fun. (B85-89)*

K5 discussed his use of an accompaniment system for his trumpet practice, which he saw as a helpful tool for his practice. For instance, he believed that playing with the piano accompaniment from the app enhanced his practice and facilitated his ability to practise alone. This perceived usefulness results in a satisfying musical experience essential in adopting the technology (Ma et al., 2016). K5 found that playing the trumpet with the accompaniment from the app allowed him to practise autonomously while experiencing enjoyment. He stated, 'I need the accompaniment to keep my practice and practice more', and added, 'so this is something that keeps me playing and having fun'. These statements highlight his motivation and enjoyment derived from autonomous learning with the aid of the accompaniment system.

Although social distancing due to the COVID-19 pandemic resulted in less social gathering and limited opportunities for group playing, K5 acknowledged that the accompaniment system enabled him to continue playing and enjoying the musical instruments even when he was unable to gather with others to play. Again, the social context was important in perceiving usefulness in facilitating adoption and affordance in using apps for his music practice (Demiris et al., 2004; Niemela-Nyrhinen, 2007).

K3 *I downloaded many things. Look here; this song is too fast for me, and I practise playing by slowing it down to 70% and 80%. I use this app (showing the app) called 'Sing Play'. I use this when I practise alone. Or here, I use this to record my performance with the accompaniment. I play solo but can listen to my play by recording it. I can listen to my play. Let me see... (looking through the apps) Here, this 'Samsung Music' can slow down the speed of songs. This is what the tempo should be, but if I press this... see? the tempo gets faster! And now, listen! The tempo gets slower. I slow down songs that are too fast and practise with a slow tempo, and I get faster once I can play better. I use them like this. And well... This (Playing on the ocarina) 'Do-Re-Mi-Fa-Sol-La-Si-Do' cannot always be in tune. So, this (showing the app), when I play sounds, it tells me whether I play in tune with this moving needle on the screen. If I play in tune, do you see the blue colour? That means my sound is in tune. I can check by watching whether my sound is in tune. I am pleased when I adjust tunes to play in tune. In this way, I improve.*

What is the name of the app?

R *'Soundcorset metronome and tuner' And here's another thing (with the metronome on) that's in time. If I want to play faster, I can play with the beat. I can choose from here. If I want to practise with this rhythm (showing the sound of different rhythms), I can learn from following them. I can practise in a lot of different ways. As long as I know the Internet and manipulate different things, I can practise by myself, making music in many other ways. If I put in a little more effort, I can do it all with this. (B66-68)*

In this conversation, K3 actively demonstrated and described using various apps to support their music practice, particularly in the context of solo practice sessions. K3 perceived the increasing efficiency in learning as somewhat by 'knowing the internet and manipulating different things'. K3 appeared to see that the experience with mobile

technologies made the user central in the learner context, which facilitated learning according to his needs.

For instance, K3 highlighted two instances of using the app that enabled him to control the tempo of a song. By slowing down fast-paced songs, K3 could practise at a comfortable pace. This demonstrates how K3 leveraged digital tools to adapt his learning environment to his preferences. The enthusiastic use of these digital tools to enhance skills and practise autonomously was evident in K3's detailed descriptions of how he utilised each app and its benefits. K3 expressed satisfaction, stating, 'I am pleased when I adjust tunes to play in tune. In this way, I improve'. This statement reflects K3's contentment with the ability to make tangible progress in his musical skills.

Moreover, K3's comments, 'I can practise with a lot of different ways' and 'I can practise by myself, making music in many other ways', signal that using apps as assistive tools can give the user proactive opportunities. As noted in Chapter 2, one of the differences between adult learning and child learning is that adult learners are motivated by a need for autonomous and self-directed learning contexts (Knowles, 1975).

K3 admitted later in the interview that all the apps he utilised were informed mainly by his colleagues and teacher. He stated, 'The teacher told me to download some, and the people next to me... There are some things that even the teacher doesn't know, so people let other people know...and share each other useful things' (B70). This highlights the collaborative nature of app selection and knowledge sharing within the learning community.

Despite relying on recommendations, K3 felt empowered to engage efficiently with the apps he uses. He expressed confidence in his ability to explore and navigate these assistive tools, stating, 'If I put in a little more effort, I can do it all with this', indicating a preference for exploring and maximising the potential of these apps. Overall, K3 affirmed the empowering possibilities of utilising different apps to enhance perceived usefulness and facilitate autonomous learning experiences.

5.2.4 Authenticity and Accuracy

- K6** *YouTube should be only a reference to what I am doing after earnestly acquiring my knowledge and skills, I develop those skills and then do a different thing. Or if I prefer it more, I will do it that way, but...*
- R** *There may be likes or dislikes about it.*
- K6** *Oh, I am not saying that I should not watch them. I might watch them... I might watch a lot, but... watch them as a reference. There are different genres. Even if it's the same music, the rhythm is different. People might compare them, and there might be something I want to learn. Teachers explain and teach you as much as they know. Basics are important, those basics from textbooks. Well, people can have fun with it, be dazzled and so on... because you're a human.*
- R** *To be dazzled?*
- K6** *I might be dependent too much on it, or I play without feedback or something like that. That is one of concern, I guess. (B29-35)*

In this part of the interview, K6 offered a contrasting perspective on YouTube, expressing a somewhat dystopian view despite the platform's perceived omnipotence that was discussed by other participants in previous themes. At first, K6 tried to be cautious about relying too heavily on materials available on YouTube. However, K6 acknowledged that watching music content for educational purposes was common, providing opportunities to learn about diverse music styles and rhythms. K6 valued the increased choice of YouTube content, believing something might be worth learning.

K6 emphasised the importance of using such videos as a reference rather than depending solely on digital resources, expressing apprehensions about the lack of proper feedback, using the phrase 'being dazzled'. K6 raised apprehensions about excessive dependence on non-curated content and passively adopting exemplars from the platform without receiving necessary feedback. This recognition of the potential negative impact of relying solely on digital resources for learning was evident in K6's concern about the passive consumption of non-curated content.

Furthermore, K6 took a stance on the importance of learning basics from a textbook, reflecting the values of traditional music education that prioritise technical mastery and a

deep understanding of musical theory. His perspective highlights the importance of balancing technological resources and more traditional learning modes to ensure a well-rounded education. It is interesting to note that lack of interaction is one of the critiques of YouTube tutorials, as they do not facilitate immediate communication between students and teachers (Schmidt-Jones, 2021). K6 considered both the over-reliance and possible unauthenticity of materials to engender a passive learning attitude that might present within his learning context of using YouTube for educational purposes.

K4 *What I'm interested in now is that... I don't think everything that on YouTube is good. Since anyone can post there, we can't assume all the materials are high quality. As an experienced saxophone player, I know that there are certain Korean saxophone players who play at a very high level. I say we have to listen to those. We shouldn't listen to others. Those are not good, not good, and it is a waste of time. We decide whom we listen to. This person and that person. (B63)*

Similarly to previous participants, yet more straightforwardly, K4 put a question mark over YouTube's open access by using the phrase 'anyone can post'. This led him to acknowledge that not all materials found on YouTube were good or of high quality, saying, 'I can't say that all the materials from there are good'. However, K4 considered himself 'an experienced player', feeling confident about selecting appropriate videos for his fellow learners. He professed, 'I say we have to listen to those. We shouldn't listen to others'. His lifelong engagement with music and musical training gave him confidence in prioritising authenticity and accuracy when learning a musical instrument through digital technologies.

K10 *I play this way and that way, but when I see other people's uploaded videos of the same song I am learning, I am like, this person plays this part with different strokes and chord positions. After that, I try the way that person does. So, through YouTube, I try and practise this way and that way. I tell my teacher, 'On YouTube, people play this way' and ask if it is the right way to play like that. There are so many options, and I'm just checking if what I play is right or wrong. Might it be wrong? (B14-15)*

While narrating her experience browsing YouTube for appropriate tutorial videos, K10 appeared cautious and sceptical, as she constantly questioned about learning from YouTube'. K10 displayed openness to adopting what YouTube video exemplars provided in terms of different techniques and styles of playing a song, stating, 'I am like 'this person plays this part with different stroke and chord position'. Nevertheless, at the same time, K10 appeared ambivalent about learning from the YouTube tutorial exemplars. She acknowledged the 'many options' available and adopted a part-heuristic approach to YouTube's exemplars, stating that 'So, through YouTube, I give a try and practise this way and that way', but also, she enquired her instrument teacher to filter the authenticity and the accuracy of her learning from YouTube's exemplars, she said 'I am just checking if what I play is right or wrong'. This quote highlights the authenticity and accuracy of the content participants learn from and emphasises the importance of finding credible sources of information to ensure accurate and authentic learning.

YouTube is a widely used video platform with a vastness of information, but at the same time, it receives both criticism and praise for its non-curated space (Saffi et al., 2020). Given that, some participants (K4, K6 and K10) perceive YouTube as a non-curated space, highlighting the importance of exercising caution when discerning its content's educational accuracy and authenticity. These participants alluded to the oversaturation of YouTube media and expressed concerns about its accuracy and authenticity.

5.2.5 Discussion

Participants highlighted the perceived value of adopting and appropriating digital music technologies for learning a musical instrument. Some participants perceived YouTube and smartphone apps as essential tools for their music practices. Participants reflected on their appreciation of the ease of access and use of digital music technology, allowing them to find and learn new songs quickly and easily. More specifically, some found value in using the YouTube app on their smartphone to listen to and learn songs for their instruments. Some found value in exploring their diverse musical tastes, allowing the accessibility of a full

spectrum of music genres through digital music technologies, which satisfied their musical interests. On the other hand, some participants also expressed concerns about the burgeoning musical content available via YouTube, which might lead them to experience music passively. Their reflections suggest that they found the value of digital music technologies for their music learning as a more meaningful and intentional experience rather than just casually browsing for entertainment.

Participants also found value in using YouTube and various music apps for autonomous learning for their music practices. Some participants found a more comprehensive range of content available on YouTube for learning techniques and songs on different instruments. They perceived YouTube's accessibility as allowing them an enhanced autonomous role in learning according to their needs, and self-directed learning was considered an essential attribute of their learning (Knowles et al., 2020; Mezirow, 1985). Notably, the audio-visual presentation of songs on YouTube enhanced the music instrument learning experience, allowing the participants to internalise the melody and learn the songs more easily. The participants used various apps to support their music practice, for slowing down the tempo of songs, adjusting the tempo, or tuning and playing along with a metronome in solo practice sessions. They perceived that these digital tools made the user central in the learner context and facilitated learning according to their need. They found these digital tools useful in facilitating the adoption and affordance of using apps for their music practice.

Values in learning from authentic and accurate sources were highlighted when using YouTube as a resource. Participants expressed concern about becoming too reliant on digital resources and needing proper feedback. Balancing technological resources and more traditional learning modes was important to ensure a well-rounded education. Participants also recognised that not all content on YouTube is reliable, which could lead to confusion and frustration. Literature finds that locating and assessing online materials' reliability is perceived as a challenge (Miller & Bartlett, 2012). In this thesis, participants' reflections resonate with previous studies that lack the skills required to assess resource quality might

hinder addressing their practical needs (Schmidt-Jones, 2021). Some participants expressed caution and scepticism regarding learning from YouTube, adopting a part-heuristic approach and checking with their instrument teacher for authenticity and accuracy. Their reflections highlight some participants' perceived importance of learning from authentic and accurate sources to ensure both the accuracy and authenticity of knowledge acquisition in the oversaturated world of YouTube.

In sum, the perceived value of using digital music technologies to learn a musical instrument has emerged as most participants found YouTube and smartphone apps essential for their music practices. They found that those digital music technologies provided easy access to comprehensive content, enabling autonomous learning. Additionally, participants appreciated the opportunities to explore diverse musical tastes and learn from authentic and accurate sources facilitated by these digital resources. However, concerns about becoming too reliant on digital resources and needing proper feedback were expressed alongside these benefits. Participants recognised the importance of balancing technological resources with more traditional learning modes to ensure what they regarded to be a well-rounded education. Overall, participants reflected on digital music technology's intentional and meaningful use in their music practices, expressing its value.

5.3 Social Influence

5.3.1 Background

The rapid development of Information and Communications Technology (ICT) has led to changes in many aspects of society, including how people learn and use digital technologies. Therefore, understanding the role of social influence in facilitating the interest and adoption of modern digital technologies among older adults cannot be ignored (Vogels, 2019). While some literature finds it controversial to include social influence in their models of technology adoption and use (see Sections 2.3.4.3 and 2.3.4.4), Morris and Venkatesh (2000) suggested older participants weighted the importance of subjective norms more

strongly when adopting new technologies. This finding further contributed to formulating one of the constructs of the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2012) discussed in the literature review (see 2.3.2.3). Social influence in the UTAUT model refers to the notion that an individual's behaviour is influenced by how they interact with others in specific social situations (Venkatesh et al., 2012). In learning and playing musical instruments, two PETs, 'Social context' and 'Group interactions', were identified as participants' reflections on the social influence of adopting and appropriating digital music technologies.

Social context discusses self-identifying as a user of digital technologies within social circumstances, such as social distancing measures imposed by the COVID-19 pandemic. This allowed participants to perceive an increased reliance on digital technologies for social interaction and music learning.

Group interactions focus on participants' perception of the usefulness of communicating music information across the circle of friends and community group members.

5.3.2 Social Context

- K2** *I use them a lot these days. I use smartphones and apps a lot now. (B71)*
- K3** *I tend to use my smartphone, YouTube and music apps a lot. (B56)*
- K4** *I have done many things with YouTube lately. (B63)*
- K5** *I use computers and smartphones a lot these days to search for music. (B71)*

The participants described their use of digital music technology with the expression 'a lot' and 'many things', indicating the perceived amount of use. The word 'a lot' appears vague and abstract; however, it implies a perceived perception of their frequent use. It is to be noted that participants were not explicitly asked about using YouTube. However, some participants pointed out YouTube in relation to digital technology with their musical engagement, identifying themselves as active users by reflecting on their daily use. The participants also indicated their increasing utilisation of YouTube by saying terms such as

'now,' 'lately,' and 'these days' to refer to the period following the outbreak of the COVID-19 pandemic. This recurrent pattern is evident in all four quotes, highlighting the significance of digital music technology in their lives during this time. Furthermore, in the following quote, K3 explained why he had begun to use YouTube more in detail.

K3 *You know what happened lately, no social gathering or learning activities at the centre. Because of that, I have begun to watch more YouTube to listen to music or watch things. Don't you agree? (B57)*

K3 expressed a firm belief that social circumstances had affected the frequent use of YouTube. Given that the interviews were conducted amid the COVID-19 pandemic, K3 mentioned that he was not able to attend social gatherings or learning activities, which led him to consider his habitual use is engendered by 'no social gathering' and 'no learning activities at the centre'. This aligns with recent studies (Sixsmith et al., 2022; Wallinheimo & Evans, 2021) discussing the increased use of information and communication technology (ICT) during the pandemic, resulting from limited face-to-face social activities. The phrase 'because of that' suggests a causal relationship between the lack of social activities and the increased use of digital technology. This quote suggests that social context is a significant factor in shaping the use of digital technology, as individuals adapt to changing social circumstances by finding new ways to connect and engage with others.

K10 *I have a lot of time at home. After retirement, more time. But COVID-19 made our stay at home more than I expected. What should I do? We cannot gather, no social activities, no programme. So, use those things on the smartphone and computers, watch such things on YouTube and read news on the computers. For music, too. I practise my guitar more to get less bored. Also, I use the recording of the accompaniment when practising. (B34)*

Here, digital technology coordinated the ways in which K10 managed and reflected on her new temporal arrangement after retirement and amid the COVID-19 pandemic. K10 expressed her concerns over limited social activities imposed by the COVID-19 pandemic and perceived the social circumstance created more use of smartphones and computers.

Then, K10 spoke of the increased use of technologies in relation to music practice with the recording. K10 further justified, 'I have much time at home' with her perception of the affordance of practising the guitar with an accompaniment recording. Similarly to K3, other participants mentioned their worries about being isolated after retirement due to the social distancing rules then in place. In such cases, having an enforced increase in time and limited social activities motivated participants to seek more engagement with digital music technology, although not mentioned explicitly, manifested itself in different ways such as using technology accumulated 'the smartphone and computers watching such things on YouTube'. In other words, technology use enhances personal interests in the absence of physical gatherings and activities, which helps her stay engaged despite the prevailing social limitations.

5.3.3 Group Interactions

In the following excerpt, K4 extended the scope of technology to communicate music information across the circle of friends and community group members.

K4 *I share the [hyper]links with my friends. I just sent links to some singers performing beautiful songs that we liked when we were young. I was not able to do this. But one of my friends said, 'Hey, you should know this kind of thing'. Also, my group members send those links to each other if someone finds any useful references. Sometimes, they saw what I did not know. Then, I listen to them. (B48)*

The technology used for sharing video hyperlinks (links) of performances affected how group members communicated information across their group members. K4 reflected on the communication among the music group members and friends to share references of music exemplars or songs for reminiscing. This resonates with findings that ICT enables communication of many everyday aspects of relational maintenance (Kelly et al., 2017). K4 attempted to use the appropriate tool for communication contexts, which facilitated social relations. As music and related devices become digital, sharing music has become easier

and faster. Prior literature points out that sharing music collections online or on social media represents a sense of self and influences peers to be exposed to music (Karnik et al., 2013; Lindley et al., 2013). Linking to those findings, K4 used the phrase 'we liked', which suggests a shared interest or commonality with the group members.

K4 further noted that he was not previously able to share these links but was encouraged by one of his friends. K4 specifically highlighted the active interactions within the group, stating that 'my group members send those links to each other if someone finds any useful references'. This K4's description of sharing music with group members for their learning context suggests a sense of collaboration and mutual support. The phrase 'useful references' suggests a shared interest in learning and acquiring new knowledge. The participant noted that group members sometimes shared links that others were unaware of, indicating the potential for digital technology to facilitate the discovery and sharing of new information and perspectives. This exchange of links among group members was perceived to encourage positive relationships among members and emphasise the community as an educational entity (Neves & Mead, 2021). As such, K4 highlighted the importance of social support and collaboration in facilitating the use of digital technology for learning.

K1 *We take videos of each other's performances. We wanted to cherish our memories of performing the instrument. Look here. I took a picture and shared photos with my group members. And here, I recorded videos of this person's solo performance. And I asked someone in the audience to take a picture of us playing (showing the photos). I sent these to people. Otherwise, we wouldn't know how we performed. Look at how I share these with the group members. We have a group chat (showing the group chat). We talk over this. Someone sent us music for relaxation, and I listened to it. It was quite nice. (B56)*

The prevalent use of ICT influences the way in which music is shared and brings new opportunities for social interactions within the groups. In this quote, K1 illustrated instances of sharing videos, photos, and music with their group members, which allowed them to reflect on and celebrate their performances together. She found that the use of digital

technologies not only facilitates the sharing of music materials but also provided a platform for discussion and feedback through group chat. K1 also mentioned discovering new music through their group members even outside the group programme, suggesting a collaborative and supportive environment for exploration and learning. Similarly to K4, K1 perceived music sharing using group chat with others enhanced social connections and supported among group members in the context of musical activities. K1 expressed gratification of how music could be shared in this way, which expanded her musical interests.

In the following quote, K3 expressed gratification in communicating with group members, sharing both music-related resources and notices related to the music group.

K3 *My teacher sends us the file, the music file, which is the song that we are going to learn. I find it useful to listen to it first. Sometimes the teacher sends us the music sheet, too. But it is too small. I read the group messages about events, times, locations, songs, videos of good performances, and new things about the ocarina. (B78)*

K3 identified himself as a recipient rather than a distributor of sharing links to music videos and digital files through group chat, highlighting different roles in sharing music within the group. For instance, K1 and K4 were more active in sending music links, videos, and pictures through group messages. K3, on the other hand, received information, got support from the shared files, and perceived shared music-related resources as beneficial for his music learning.

K3 also noted the prevalence of digital technologies in providing access to resources and guidance for learning within his group context, citing his teacher's practice of sending music files and sheets through digital communication. However, K3 pointed out the limitation or challenge in this approach by mentioning that the size of the files sent was too small to see, as indicated by his comment, 'But it is too small to see'. This suggests one of the limitations or challenges in the accessibility or usability of these materials within the digital communication context.

Furthermore, K3 mentioned using digital technologies to reference videos of good performances, which motivated members and provided valuable support and resources for music learning. This highlights K3's positive perception of the role of digital technologies within the group context. K3 recognised that these technologies enabled effective communication, organisation, and engagement in the learning process. Instances such as referencing group messages about events, times, and locations served as reminders of how digital platforms facilitated coordination and planning among his members, contributing to a more cohesive and collaborative learning experience.

5.3.4 Discussion

Under the theme of social context, participants were more likely to identify themselves as users of digital technologies, with some explicitly mentioning YouTube as a significant part of their daily use. The COVID-19 pandemic and the resulting social distancing measures have influenced their increased use of technology. Participants adapted to changing social circumstances by finding new ways to connect and engage with others. Participants perceived that they were turning to digital technologies like smartphones, computers, and YouTube to cope with the lack of social interaction and activities. This suggests that digital technologies are becoming increasingly important in maintaining social connections and reducing feelings of isolation even with their musical activities.

Under the theme of group interactions, participants highlighted that digital technologies played an important role in facilitating group interactions and supporting shared interests. The use of digital technology has coordinated the way participants manage and reflect on their new temporal arrangements, especially after retirement and amid the COVID-19 pandemic. Participants expressed concerns over limited social activities, motivating them to seek more engagement with digital music technology, which helps them stay engaged with music participation. This suggests that digital technologies are becoming an important

medium for them to connect with others who share similar interests, regardless of physical location.

Overall, the Group Experiential Theme, 'Social influence', discusses participants' perception of social influence on individuals' behaviour towards digital technologies. This theme aligns with the UTAUT model (Venkatesh et al., 2012), which suggests that social influence plays a crucial role in shaping individuals' beliefs and attitudes towards technology use, ultimately affecting their intention to use it. Two PETs of 'social context' and 'group interactions' highlight the importance of social influence in shaping individuals' attitudes and behaviours towards digital music technologies in the group music learning context.

5.4 Digital Literacy

5.4.1 Background

Studies (König et al., 2018; Wike et al., 2022) have reported increased Internet access and smartphone ownership among older adults in many developed countries. These findings indicate a growing trend where older adults embrace digital technologies and become more connected in their daily lives. However, there are concerns about a gap in the skills and knowledge to use digital tools effectively between different generations (Hunsaker & Hargittai, 2018; Seifert et al., 2018; Tarafdar et al., 2007). Studies suggest that Internet use among older adults is influenced by personal, social, and contextual factors such as country-specific wealth and communication technology infrastructure (Seifert et al., 2018). This disparity in digital technology use is referred to as the 'digital divide', which suggests unequal access and usage of the Internet across various groups, including different generations, social contexts, and socioeconomic classes (Delello & Mcwhorter, 2017).

As technology evolves, people must continually acquire higher levels of digital literacy. Although studies have expressed concerns about barriers, such as lack of knowledge, confidence and support, as well as complexity, scholars suggest that older adults are willing to learn and use new technology when given adequate support (Lee &

Coughlin, 2015; Vaportzis et al., 2017). Thus, there is an increasing interest in developing older adults' digital competencies through the implementation of design strategies that enable them to experience the functional benefits of emerging technologies (Martínez-Alcalá et al., 2018).

Effective use of digital technologies plays a crucial role in shaping older adults' motivation and willingness to adopt these devices (Kim et al., 2021). To address the issue of effective utilisation, there has been a focus on defining and measuring digital competencies within the discourse (Ulfert-Blank & Schmidt, 2022), as digital competencies are seen as the determining factors that shape individuals' usage or willingness to use digital systems (Janssen et al., 2013). The analysis of interview data identified the third Group Experiential Theme (GET) related to 'Digital literacy', which deals with participants' reflections on their ability to use and evaluate digital technologies, manifested as their motivator and challenges for adopting and using digital music technologies. The GET comprises two Personal Experiential Themes (PETs), 'competence/knowledge' and 'age and the technology use'. **Competence/knowledge** discusses participants' familiarity with technology, which comes from their previous experience and positive attitude towards incorporating digital music technologies into their music activities.

Challenges/limitations focus on participants' perceived challenges and concerns about adopting emerging technologies.

5.4.2 Competence/Knowledge

K2 *The tricky thing is that we need more sense of how to use this device as much as young people do. So, I try to learn. I go to Samsung Service Centre²² and learn. I easily forget what I learn, but there is something I can keep.*

R *What details do you learn from the service centre, and how is it?*

K2 *For example, if I want to listen to Trot songs, I want to listen to them in the first place; they teach me how I can listen to them. I keep forgetting it, so if it doesn't work, I know I can ask younger people or*

²² an authorised support centre located across cities in South Korea where customers can repair or get help and advice on Samsung products from trained staff.

my children, but I feel a little sorry or hesitate to ask. So, I go to the service centre. If you don't know things, they teach me. They teach me very well. Kindly. Many people come. A lot of older adults go to the service centre. Well, there, I learned how to use it. I learned phone banking, listening to music, and taking pictures. I can't remember all those things, but if I repeat them, now I know more and can listen to more songs (laugh). (B91-93)

K2 narrated that his perceived competence in listening to music on his smartphone came from efforts to acquire the necessary knowledge and competence to use digital music technology effectively. Despite the perceived challenges of absorbing all the learned skills, the outcome of his learning experiences manifested as a positive achievement, which enabled him to do 'phone banking, listening to music, and taking pictures' on his smartphone. K2 highlighted the challenge of retaining information and the need for repeated practice and reinforcement to develop digital competencies. He noted that he easily forgot what he learned but demonstrated a willingness to use digital technology effectively because K2 perceived his knowledge about how to use the smartphone's functions brought him to broaden his musical experience.

Perceived value and confidence are considered among the most critical factors and predictors of technology adoption among older adults (Berkowsky et al., 2017). K2's efforts to be competent in using the device for listening to music were demonstrated by professing that 'I know more and can listen to more songs'. This reflection highlighted how digital music technology could enhance K2's musical experiences by providing access to a vast library of music and learning resources. It is evident that K2 believed that developing digital skills expanded and enriched the overall musical experience.

K4 *Now, the iPhone. Mine is the iPhone. Strangely, I have become an Apple fanatic... (gentle laugh) My computer is a Mac. Everything is like this. This is (pointing to his phone) like that... I was the one who taught computers to others in the military. I used PowerPoint and Excel when they came out in the early 90s. (B77)*

Starting with the phrase 'Strangely', K4 portrayed himself as 'an Apple fanatic' and expressed his positive attitude towards incorporating digital music technology into his music

activities. However, it is important to delve deeper into the social and cultural context regarding his statement about being an Apple user. According to mobile vendor market share data from StatCounter (2022), Samsung's smartphones, known as 'Galaxy', hold approximately 60 per cent of the market share, while Apple's smartphones, known as iPhones, hold around 30 per cent. Nevertheless, Gallup Korea (2022) reports that in South Korea, only 1 per cent of individuals in their 60s and 2 per cent aged 70 and above use iPhones, suggesting that iPhones have been commonly associated with younger generations due to the distinct operating system they use compared to Google's Android, which is used in Galaxy phones (The Korea Herald, 2016). Therefore, for K4, the use of Apple products might reflect his self-perception as being skilled in emerging technologies, particularly compared to others within his age group, highlighting his willingness and openness to adopting new and emerging technologies.

Furthermore, K4 demonstrated a high level of competence/knowledge in technology, recollecting experience using computer programs when they first came out in the early 90s. The phrase 'I used "ppt" and "Excel" as soon they came out in the early 90s' demonstrates his reason for feeling competent at using technologies. This suggests that K4's current good level of confidence in using digital technologies was based on this longstanding experience. Previous studies have evidence that computer experience significantly impacts older adults' adoption of emerging technologies, influencing their overall life satisfaction and emotional well-being in later life (Spears & Zheng, 2020). Given that, participants in this thesis demonstrated enthusiasm for using YouTube for musical learning and playing (see Sections 5.2.2 and 5.2.3) and expressed perceived value in using music-related mobile applications (apps) for improving their musicianship. K4 further reaffirmed his familiarity with digital music technologies in the following quote.

K4 *And not only YouTube, but those apps... tuner and metronome are the basics. I downloaded them. Since I am familiar with manipulating apps...I found some useful and let others know about using because some are easier, and I know things. There are many apps, but as you know, there are things that are easier to use and free. Those available apps are a bit different, so I try them a bit and find which one is most useful or easiest and tell others. (B75)*

The assertion again suggests K4's perceived competency, which afforded and accelerated the use of apps such as tuner and metronome, which he regarded as the basics of digital music technology. He also mentioned downloading various apps and actively exploring and learning about new digital music technology. Moreover, he used apps for himself and referred useful music-related apps to people in his music group, hoping his group members could take advantage of the latest information. He displayed confidence in his capability of discerning apps ('I know things') that were 'easier' and 'useful'. Thus, his confidence in using digital music technologies motivated him to explore different apps and look for what was 'the most useful or easiest'. As mentioned in the previous quote, K4's confidence in computer use built by former work experience extended his usage. K4 identified himself as a person who was knowledgeable about music-related digital resources, which enhanced his musical experiences.

K7 *Yes, because in my generation, many of us are now getting used to it. So, whenever we want to have meetings, all the notices for meetings or appointments happen through KakaoTalk. Our age uses it as much as youngsters now.*

R *Are you saying as your experience of using those smartphones and computers influenced your familiarity with using new technologies or tools?*

K7 *Yes, yes, and my whole family is in the area of computers. My husband and son are computer leaders, so I get a lot of help when I need to learn that well. I get help right away. So, compared to others, I also had a 'Telex license'²³. In the old days, Telex certification is the same as a computer keyboard. (B98-100)*

²³ Telex was a switched network of teleprinters that enabled station-to-station communication through telegraph-grade connecting circuits. It was a significant means of electronically transmitting written messages between businesses in the post-World War II era. However, with the rise in popularity of fax machines during the 1980s, the usage of telex declined (Wikipedia, 2022).

Similarly to K4, K7 felt reasonably competent in using ICT skills. K7 expressed the positivity of using smartphones, which led her to adopt emerging technologies as an important medium for her musical experience. As discussed in Section 5.2.2, K7 identified herself as an avid user of YouTube, considering it an essential part of her life. Likewise, K7 spoke confidently of her active use of the latest technology, refuting any stereotypical idea of older adults' passive attitude on its adoption, saying, 'Our age uses it as much as the youngsters now'.

Her confidence in the use of technology, in general, came from familiarity with computers gained through her previous work experience and family support. She gave examples representing her openness to adopting emerging technologies. She mentioned that her whole family was experienced in computers, and her husband and son were 'computer leaders', which means she could receive quick assistance when she needed to learn something new. Also, she mentioned her previous Telex certification, highlighting her previous affordance with technologically mediated communication. Given that, while technology use often needs to consider a number of psychological and contextual factors, K7's use of emerging technologies came from her positive attitude towards technology manifested as a perceived need for technology, interest in technology and willingness to adapt to new technologies (Peek et al., 2016).

5.4.3 Challenges/limitations

While being aware of its prevalent usage, K9 revealed uncertainty about whether learning from an online platform like YouTube would be effective for him, as well as his ability to adapt to new technology or learn from digital sources.

K9 *I use my smartphone sparingly. It looks like... something similar to YouTube, showing things in great detail. There are many things that people search for.*

R

K9 *Something like?*

Things like how to play something, but I don't watch those videos very often. I don't always do well with things I learn from a tutor. I

barely follow my tutor's instructions, so I'm not sure if I could learn from a screen. I need to do well with the things my tutor teaches me in the first place (laughs). And do you think I could get better if I learn from it? (B77)

K9 acknowledged the availability of detailed resources on YouTube, stating that 'YouTube shows very in detail'. However, K9 identified himself as a person who used a smartphone less frequently, suggesting that he might perceive less need for support from YouTube tutorials. Despite being aware of the prevalent use of video tutorials and performance examples for learning, K9 expressed scepticism regarding their usefulness in his practice, considering his ability to utilise video sources effectively. The perception of usefulness and the potential benefit is an important factor leading to the intention to use facilitating behaviour change (Thatcher & Perrewé, 2002). However, K9 remained still determining his capability, as he spoke the interviewer/researcher's opinion on whether he would benefit from using the platform, asking, 'Do you think I can get better if I learn with it?' This implies K9's perceived uncertainty, making him less inclined to use such a platform despite his awareness of its application in music learning.

K8 *I use it less than other people. How can I be so active? If I were younger, I would have done it, but I am not like a younger person who is active... If I were younger, the scope would be wider, and I would have done more. People say it is useful, so they want to teach me.*

R *What do you mean by the scope would have been wider?*

K8 *Like YouTube, I would upload videos of what I played... or search and watch people who play well. But now I am old, and I need to put great effort into knowing how to manipulate it. My children or grandchildren might help me, but no...I will keep it as simple as possible. (B78-80)*

K8 appeared cautious about learning to manipulate technology despite being aware of its benefits. K8 assumed that she would actively explore using digital music technology if she were 'younger', expressing that 'the scope would be wider'. This latter phrase implies the potential of using digital music technology but also expresses a sense of limitation in her

ability to be as active as she perceived that people would be, particularly in relation to using technology. On the other hand, K8 was willing to learn but perceived that it would require significant effort at her age, described as 'I need to put great effort into knowing how to manipulate it'. She admitted that support was available from her family and music group members, but the willingness to learn and use it for her practice was less likely, stating, 'I will keep it as simple as possible'. Thus, K8 acknowledged that she used technology less than others and attributed this to her age, highlighting the challenges and limitations of technology use in older age.

K6 *I didn't use computers that often because of electromagnetic radiation. I wouldn't say I liked it in the first place. Still, people in my group seem to be interested in that... for those who had been educated at higher education institutions. Those people use them a lot. But if I want to accept it as my own thing, I think I need to know some actual technical and practical aspects of it. But I am not sure if I can get those things right away. (B29)*

In this quote, K6 expressed his hesitation and uncertainty towards using digital technologies due to concerns about 'electromagnetic radiation'. Here, the mention of 'electromagnetic radiation' signifies K6's health concerns related to the use of electronic devices, which reflects a common belief in South Korean society regarding the potential risks of excessive device usage. Given that, while K6 admitted to increasing interest in adopting technology-mediated learning among people of his age (Oliver, 2012), K6 exhibited reluctance towards technology use due to personal concerns.

Furthermore, K6 argued that 'those who had been educated at higher education institutions' were more likely to use media for music learning, implying a distinction in technology usage based on educational level. K6 firmly assumed that higher education and subsequent employment opportunities might provide more exposure to technology usage for his age group. Although specific literature focusing on the relationship between educational level and technology usage among older adults is limited, K6 attempted to argue the potential influence of prior knowledge and experience in leveraging the affordances of

technology. This suggests that K6 was concerned about the practical skills required to use technology effectively. The literature discusses individual factors in promoting technology adoption among older adults, including knowledge, trust, and computer self-efficacy (Pywell et al., 2020; Kim et al., 2021). Despite recognising the importance of understanding technology's technical and practical aspects, K6's reluctance to its use persisted due to his uncertainty about acquiring the necessary technical skills.

5.4.4 Discussion

The GET 'Digital Literacy' explored participants' reflections and identified two PETs, 'competence/knowledge' and 'uncertainty/limitation'. Participants who have become proficient in using technology through their exploration and experience expressed greater ease and confidence in adopting and using digital music technologies. Their reflections support previous studies on technology acceptance models such as TAM and UTAUT, which consider competence an essential factor in adopting technology (Venkatesh et al., 2003) (Section 2.3.4.2). Furthermore, the perceived competence in digital music technology with prior experience and knowledge in using similar technologies demonstrates the importance of recognising older adults' familiarity with technology and positive attitudes towards incorporating digital music technology into their music activities. As such, participants' confidence in using technology motivated them to explore different apps and look for the most useful or easiest ones, enhancing their musical experiences.

Some participants reflected on their perceived uncertainty and limitations in adopting digital technologies for music learning, as participants have varying comfort levels and experiences. Moreover, not only positive attitudes towards the potential benefits of technology use but also uncertainty about effective learning from tutorial videos available on YouTube and the ability to adapt to new technology or learn from digital sources were factors that shaped their experiences. It is also important to note that participants perceived their potential to develop and improve their technical skills through personal exploration,

support from others, and formal training while having perceived uncertainties and limitations in adopting digital music technologies.

5.5 Conclusion

As this chapter develops, through participant interviews, digital music technology is described as utilising YouTube, music-related mobile applications, and devices for their musical practice. This chapter provides valuable insights into the perceived values of digital music technologies, social influence, and digital literacy, which aligns with the experiences of learning and playing musical instruments.

The participants' reflections indicate that they perceived digital music technologies as valuable tools for autonomous learning, diverse music exploration, and accessing authentic and accurate sources of information. However, their reflections suggest that they consider balancing technological resources with traditional learning modes essential for a well-rounded education.

The critical role of social influence in shaping individuals' attitudes and behaviours towards digital music technologies is discussed. Participants' reflections reveal that digital technologies have become increasingly important in maintaining social connections, especially during the COVID-19 pandemic. Additionally, digital technologies facilitated group interactions and supported shared interests, enabling some participants to connect with others who shared similar interests regardless of their physical location.

The findings suggest that participants found digital literacy important for effectively adopting and using digital music technologies. Participants' reflections suggest that familiarity with technology and positive attitudes towards incorporating digital music technology into music activities were crucial factors in adopting and using digital music technologies. However, some also noted that not all content available on digital music

technologies was reliable, highlighting the need for individuals to develop critical digital literacy skills to evaluate the quality and reliability of online materials.

Garner (2017, p. 142) describes YouTube as 'useful for musical learning due to its global situatedness and ease of access and is a viable low-cost alternative for those who cannot afford the one-to-one learning experience'. This description has commonalities with some of the technology adoption models (TAM and UTAUT), which emphasise the influence of various factors on individuals' perceptions and decisions regarding the adoption and use of technology. In the context of older adults, factors such as value, usability, affordability, and accessibility are particularly important when considering the adoption of digital technologies (Lee & Coughlin, 2015). The chapter delved into participants' experiences and engagement with digital music technologies, considering varied experiences and perceptions within the digital age.

The second overarching theme presented in this chapter revolves around the participants' adoption and appropriation of digital music technologies. It sheds light on the pivotal role played by values, social influence, and digital literacy in shaping their learning and playing musical instruments. By delving into these factors, the chapter provided valuable insights into older adults' adoption patterns and experiences when incorporating digital music technologies into their musical practices.

6. Meaningful Participation in Instrumental Music Groups

6.1 Introduction

Chapter 5 offered findings related to participants' musical motivation drawn on a wish to fulfil their personal, educational, and social needs. Chapter 6 offered findings related to the theme of adopting and appropriating digital music technologies for participants' music experiences. Building on those previous chapters, this chapter explores the holistic experience of learning and playing musical instruments in groups, focusing on participants' perceptions of group experiences. Through an analysis of interview data collected from participants, three Group Experiential Themes (GETs) were identified through an inductive approach. Figure 13 shows how these themes were grouped in the ordering of emerged Personal Experiential Themes (PETs).

All participants participated in group music through a music programme provided by local community centres rather than one-to-one tuition. Some participants also played in a local amateur ensemble, providing opportunities for regular performances. Table 10 provides detailed information on the types and years of their musical instrument group participation.

Table 10*Current Music Group Participation of Participants*

Participant	Main instrument	Types of current group participation	Approx. years of group participation
K1	Autoharp	Community	4~5 years
K2	Autoharp	Community, Church choir	4~5 years
K3	Ocarina	Community	1~3 years
K4	Saxophone	Community, Ensemble	4~5 years
K5	Trumpet	Community, Ensemble	4~5 years
K6	Saxophone	Community, Ensemble	1~3 years
K7	Harmonica	Community	1~3 years
K8	Harmonica	Community	1~3 years
K9	Acoustic guitar	Community	1~3 years
K10	Acoustic guitar	Community, Ensemble	4~5 years

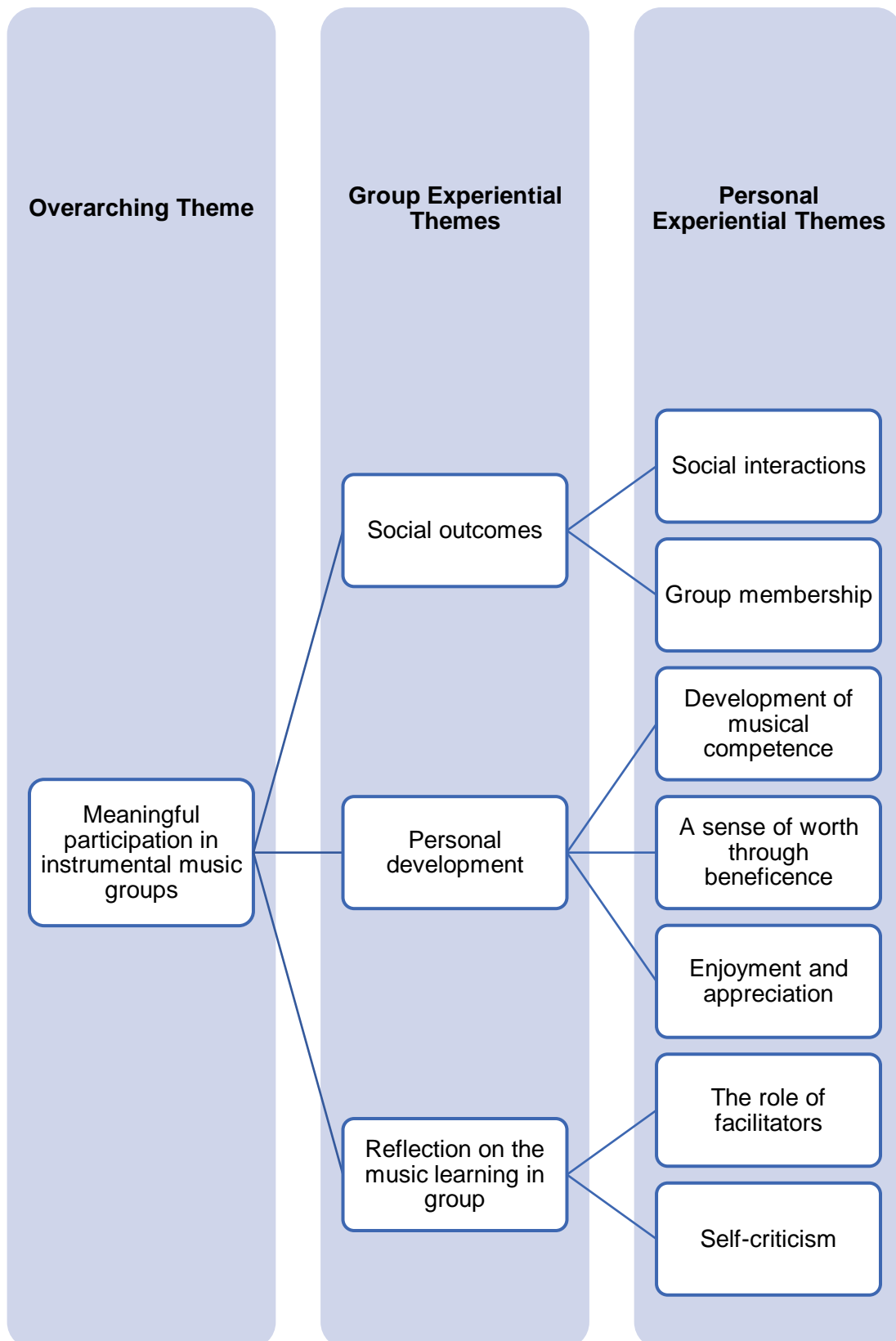


Figure 13: Diagram of Overarching Theme ‘Meaningful Participation in Instrumental Music Groups’

6.2 Social Outcomes

6.2.1 Background

Learning a musical instrument can occur in diverse contexts, including individual, group, or workshop settings. While previous research found that group instruction was preferred to individual instruction among older adults learning piano and percussion (Bugos, 2014), satisfaction with the learning process can vary depending on factors such as private practice, solo performance, or the social aspects of group music-making (Ernst, 2001). However, the preference for a group over individual tuition cannot be generalised as they have different pros and cons of respective learning contexts and need to consider different factors such as affordability and accessibility when choosing to learn a musical instrument. Therefore, rather than focusing on preference for group or individual tuition, scholars have heightened the benefits and challenges of the group music learning context.

Many studies suggest that group music participation is a fundamentally social and co-influenced musical experience, highlighting the importance of interactions and relationships among group members (Burnard & Dragovic, 2014; Daniel, 2004; Taylor, 2010, 2011a). The group learning environment is considered an important factor influencing motivation to play in a musical ensemble and as an optimal stimulation for music progression (Ernst, 2001; Taylor, 2010). Moreover, groups that form cohesive bonds positively motivate learners to continue music learning (MacRitchie et al., 2020). Therefore, the social aspect of music group participation is highlighted as crucial, especially for retired older adults who may experience a loss of social connection and a sense of belonging due to withdrawing from their full-time work (Wang & Hasketh, 2012; Wang & Shi, 2014).

As shown in Table 10, all participants of this thesis engaged in learning and playing their musical instruments in groups for at least a few years. This extended exposure to group musical experiences allowed for an in-depth reflection on their group musical experiences. The first GET identified is 'Social Outcomes', which comprises two Personal Experiential Themes (PETs) that highlight the role of social interactions and group membership in enhancing their musical learning experiences.

- **Social interactions** discuss meaningful social connections and interactions perceived by learning and playing musical instruments in a group setting.
- **Group membership** focuses on participants' identification as a member of the music group.

6.2.2 Social Interactions

K9 *I used to go there and learn, but now... it has all stopped. It is disappeared.*

R *What is disappeared?*

K9 *The programme. Those programmes at the community centre and the things that I used to do with my church members. We cannot gather...so I am at home. At least, whether I played well or not or was challenging, I had some fun. I feel sorry for not being able to play music with my church members these days. But I hope that will happen soon. Three or more people are interested in music, and we are like-minded. We need to keep going before forgetting all those things. (B39-41)*

As this interview was conducted after the outbreak of the COVID-19 pandemic, participants also discussed its impact on their musical life. K9 was learning the harmonica for a few years in a music programme provided by his church, but the classes had been interrupted due to the COVID-19 pandemic. He felt sorry for the class interruption, which resulted in missing the social interaction he used to enjoy. In contrast to other participants who fully articulated the social connection they experienced, K9 seemed to realise the effect of the shared experience through experiencing the absence of it. He described the nature of K9's musical experience as 'the thing that I used to do with my church members', which pointed out that for K9, music learning was community-based rather than individual practice. Whereas musical challenges and concerns were acknowledged by describing that 'whether I play well or not, or was challenging', the enjoyment of learning the harmonica with church members was emphasised, hoping for resuming the learning.

The positive social aspect came from feeling solid bonds with group members whom he recognised as like-minded individuals who shared musical interests and aspirations in

learning and playing the harmonica. Establishing social contacts and a sense of community is regarded as one of the critical benefits of engaging in music in the third age (Gembris, 2008). Given that, he felt a sense of belonging to a group with similar interests in learning the harmonica. He referred to 'We need to keep going...', which manifested his and the group's aspiration to learn the harmonica.

The following excerpts by K1 and K8 described how they felt social bonds with group members. They built a relationship through playing and practising music together even outside the community programme, creating special bonds among group members.

K1 *So, we go to the countryside when we have a closing ceremony. There, we have lunch and play our instruments together. Sometimes, we rent a room from a café (laugh). We played the songs that we learned during that semester. We play old songs like hymns, nursery rhymes, and popular songs, which are good to listen to. Ah, we play classical music, too. The owner gave us coffee and said he liked our performance so much. And those customers open the door, come in and look with very envious eyes (laugh). So, how happy we are that we play those songs together. Oh, we are like, 'let's go outside and play more'. And I was thinking, 'That was what I wanted!' (B14)*

Here, K1 used the personal pronoun 'we' (우리 [Woori] in Korean) throughout this quote, speaking from the perspective of K1 and her autoharp group, comprised of retired teachers. Speaking with easy laughter, K1 described a closing ceremony where the group went to the countryside, had lunch, and played music together, creating a sense of camaraderie and community among the group members. This instance demonstrated how actively her group made social connections. It is noticeable that K1 spoke twice about playing together: 'There, we have lunch and play our instruments together' and 'We played the songs that we learned during that semester', highlighting the shared experience of playing the autoharp. In addition to learning the autoharp at the community centre, the group evolved to foster deeper connections among group members through having an extra social connection. Being comprised of people with similar former work backgrounds, the group formed to practise and play the autoharp together, promoting a sense of community.

K8 *I have a lot of really fun memories with this group. One day, I slipped while walking and injured my leg. I was in a situation where I couldn't move because of the cast, but some people from the group came to my house. I had some chairs so we could play together in my home. They brought food, and we practised at home from time to time until I could walk. I really appreciated their thinking of me and coming to my house to practise together. They let me know things they learned at the programme and practised together. I thought I met a good group, and we became a good group through the harmonica. (B88)*

Here, K8 started this narrative with little laughter, stating that she has 'fun memories' related to the learning group. K8 recollected an episode when she was injured and unable to attend group meetings, but members of the group came to her house to practise together. K8 appreciated her group members who came to practise the harmonica with her, which created a sense of belonging and connection for her, even in a time of physical limitation. K8 found their acts caring for her, stating, 'I really appreciated their thinking of me'. As K8's motivation to learn the harmonica was to cope with life changes after retirement (See Section 4.2.2), the instance she recounts demonstrated her needs were satisfied by having a positive relationship built on practising and playing together. K8 revealed her satisfaction with her relationship with her members by stating, 'I met a good group, and we became a good group through the harmonica'.

In the following excerpt, K4 spoke of making friends by participating in an amateur orchestra when he had just moved to a city after retirement and had no social connections.

K4 *This was before retirement. It was fun to practise and play by myself because I could practise and play with MR²⁴. Sometimes, I played for 1 and 2 hours daily because commanders couldn't go anywhere when on duty. They always had to be in the area they were in charge of, but there was nothing to do. My family was in another city, so when there was free time, I practised the instrument, enjoying my time alone. But after retirement, I met people who play musical instruments in my city. I made connections with those people.*

R *You meet people through your instrument.*

²⁴ 'Music Recorded' which refers to instrumental version

K4 *Yes, we all met through this. Through musical instruments... I met people at school, but now I am in the orchestra. There are about 64 people in the orchestra, but the string part is mostly women, so there is little contact. I only know their faces. There are more men in the brass and woodwind section, so I met juniors and seniors and had good interpersonal relationships in the brass section. This brass and woodwind section became the basis of my social activity. In my case, because it's an unfamiliar town. (B57-59)*

K4 spoke of two different types of musical engagements. While he enjoyed practising the saxophone with the pre-recorded accompaniment, he perceived playing in an amateur orchestra joined in after retirement allowed him to develop a relationship with the orchestra members. He stated, 'I met people who play musical instruments, [...] I connected with those people', highlighting making social connections through the ensemble. He found that the ensemble played an important role in settling down in a new town where he moved after retirement.

K4 further elaborated on his connection to junior and senior members of the brass and woodwind section of the orchestra. He described his relationship with the brass and woodwind instrumentalists as 'a good interpersonal relationship' and 'the basis of my social activity'. It is noted that K4 revealed a stronger sense of community and companionship among individuals who played brass and woodwind instruments compared to those in the string instrument section. K4 claimed its reason is that string instrumentalists were mostly female, stating, 'the string part is mostly women, so there is little contact. I only know their faces'. On the other hand, as the bass and woodwind instrumentalists were predominantly male, he found it easier to develop a relationship with them. K4's argument aligns with a study which suggests a gendered pattern in instrument learning (Hallam et al., 2008). Some studies have explored the representation of males and females in relation to types of instruments and genres of music performance within the musical ensemble context (Sergeant & Himonides, 2019, 2023). However, it remains unclear whether the gender of members of the instrumental family itself is one of the significant factors in developing social relationships within the orchestra ensemble context.

Overall, K4's contrasting experience between practising an instrument alone and playing in an ensemble demonstrates K4's perceived social interaction within the instrumental music group. Nevertheless, not all participants expressed favourable social aspects of participating in an instrumental music group. K5 expressed perceived concerns about making a social connection in a group context where they felt pressured to interact socially with other group members besides learning and playing their musical instruments.

K5 *In my case, I was an ordinary office worker. I was not a high-ranking person at work, just an ordinary person. I am just an ordinary person who really likes music, but as I am in that orchestra, some people want to make extra social connections—for instance, wishing to raise social awareness or show political colour. There are events for associations, doctors' associations or something for professors' associations. So, as an amateur, I am playing my instrument from a pure heart, and I feel like an ordinary person like me is losing ground. (B48)*

In this quote, K5 expressed how his 'ordinary person' identity impacts his involvement in the orchestra and his perception of social connections. K5 revealed the pressure to develop interpersonal relationships in the group due to the diversity of member attributes. K5 described himself as 'I was not a high-ranking person at work, just an ordinary person', differentiating him from people likely to make extra social connections, creating discomfort. He spoke frankly of how difficult he found inconvenient for people interested in making extra social connections, illustrating examples of people 'wishing to raise social awareness or show political colour'. K5 called himself 'an amateur' and expressed his purpose of playing in the orchestra as 'playing from a pure heart', revealing his desire to focus on playing his instrument in the ensemble. As such, K5 expressed a different aspect of social interactions created by participating in the ensemble. This quote highlights the complex social dynamics that can arise in a group setting, particularly when individuals have different motives and expectations for their participation in the group.

6.2.3 Group Membership

K1 *We call our group 'Edu Autoharp', as one of our members suggested. So, we continue to call it. Whenever I talk about my group, I say, 'Our group, Edu Autoharp...'. (B23)*

R *Can you tell me what that means?*

K1 *It is from the English word 'Education'. We have taken out the Edu and added to Autoharp, meaning 'learning the Autoharp'.*

In this quote, K1 highlighted the importance of group identity and belonging. The group had a name suggested by one of its members, and K1 referred to it with pride and ownership, saying, 'Our group, Edu Autoharp'. This suggests that being a part of this group was meant for K1 and that she felt a sense of belonging with the other members. Regarding the meaning of 'edu', K1 explained that it came from the English word 'Education' and was added to 'Autoharp' to signify the group's focus on learning to play the instrument. This further emphasises the group's shared purpose and identity as a community of individuals committed to developing her skills and knowledge in playing the autoharp. Music groups' participation and enrolment, whether performance or learning groups, influence participants' sense of belonging, increasing a sense of community (Pennill & Timmers, 2022; Joseph & Southcott, 2014). K1's description of naming the group suggests her acknowledgement of being a group member, a new social identity she acquired after retirement.

K10 *My group is composed of people who love the guitar. There are a few men and women in the group. When we perform with the guitar somewhere, we wear jeans and white T-shirts (gentle laughs). (B23)*

K10's description of attributes of his group members and of performing together wearing similar clothes implies group conformity based on interest in playing the guitar. This unity contributed to a sense of belonging to a group of people who were passionate about the guitar. The use of 'my group' suggests that K10 identified strongly with the group, and 'few men and women' implies that the group was small and intimate. Moreover, the choice of wearing jeans and white t-shirts during performances highlights the group's informal and

casual nature. These characteristics collectively indicate that the group is comprised of individuals who share musical interests and engage in enjoyable performances together after retirement.

In the following excerpt, K6 described how he adapted to a group of different backgrounds, finally fitting into the group where he found commonalities among group members.

K6 *I was a military officer, and the military is like a hierarchical society. There existed clear ranks. And I was working in such a society. Now, I am outside, without the badge of ranks, meeting the civilians. (Little pause). We are a group of people who do different jobs. Some people ran a company, some had learnt an instrument before, and some worked at a factory, earning money from here and there. But in the end, people, as they age, come to learn the instrument as a hobby. People come to learn the musical instrument. From there, we have in common. We have similar interests, so I began to fit into the group. (B14)*

In this quote, K6 began to describe his experience of transitioning from a hierarchical society to a group of civilians who shared common interests in the quote above. K6, who was retired from a military officer, described his former work environment as a 'hierarchical society' and referred to his music group members as 'civilians', differentiating between his former work environment and his music group. K6 elaborated further on this disparity using the word 'gap' (The word 'gap' is used in Korean as in English) a few times as if it manifested his points. For K6, this gap was seen as the diversity of group members in terms of their musical learning trajectories and personal backgrounds. Given that, K6 needed to adapt to the group of people from diverse backgrounds, with different jobs and levels of experience, to come together to learn a musical instrument and finally fit into the group.

Interestingly, K6 found a way to navigate new social norms and expectations in this new group and adjusted their behaviour and communication style accordingly because of having similar musical interests. It could indicate that K6 perceived group learning not just as a medium for individual mastery of playing but as working together to learn the instrument.

Given that, K6 attempted to fit in the group by conforming to the group's progress yet acknowledging group members' diversity. The group context of music-making is to develop an individual's musical skills and create group cohesion (Pearce et al., 2015; Stewart & Lonsdale, 2016). Aligning with the findings from prior research, social cohesion has been extensively known to be one of the benefits of musical engagement in groups such as choirs, orchestras, or bands (MacRitchie & Garrido, 2019). As such, K6 highlighted the significance of group membership and how a music-learning group could shape one's sense of belonging amid the life transitioning stage.

6.2.4 Discussion

Participants discussed social interactions and group membership in the context of musical participation, highlighting the potential for learning musical instruments in a group to serve as a platform for promoting social outcomes. Participants described how social interactions through shared musical activities provide social outcomes, including a sense of community, belonging, and purpose. This was particularly regarded as being relevant for older adults, who might experience social isolation after retirement. Musical groups were identified as an important aspect of group membership, with participants often feeling a sense of camaraderie and shared purpose through their membership for learning musical instruments. This provided opportunities for social interaction and the development of meaningful relationships.

Social outcomes of musical participation were closely tied to forming social connections and networks. These connections were facilitated through shared musical interests and the formation of musical groups but also extended beyond the musical realm to other aspects of social life. Furthermore, the positive outcomes associated with musical participation highlighted the potential of music for promoting social cohesion and addressing social isolation, particularly among participants who experience increased time and loss of social connections after retirement. Given that, participants found the importance of social

interactions and group membership in the context of musical participation, which highlighted the potential for music to serve as a platform for promoting positive social outcomes.

6.3 Personal Development

6.3.1 Background

While much of the research on the impacts of musical development concentrates on adolescents and children (MacDonald et al., 2012), many personal benefits of music learning have been discussed in the literature, particularly in relation to older adults' well-being (See Section 2.3.1). Playing a musical instrument can provide a medium for positive personal development, including cognitive and emotional outcomes congruent with their learning goals. For instance, it is argued that older adults can develop performance confidence and opportunities to validate themselves as learners and musicians (Bugos, 2014; Pike, 2014; Taylor, 2011a). Also, compared with one-to-one learning, group music learning can develop self-evaluation and evaluation of others, which may positively impact older music learners (Daniel, 2004; Pike, 2014). Also, many previous studies have discussed musical engagement, particularly active music-making, in relation to promoting self-efficacy among older adults (MacRitchie & Garrido, 2019; Hendricks, 2016; Laes, 2015; Creech et al., 2013).

In this section, personal development is conceived to be a subjective perception that promotes or enhances a positive perspective on self and life through instrumental music learning and playing. Despite having varying ability levels, learning attitudes, and musical needs and goals, participants discussed positive aspects of learning musical instruments that contributed to their personal development. This section explores how participants reflected on achieving musical skills that the second GET, 'Personal development', is composed of three PETs:

Development of musical competence deals with participants' feeling competent by learning and playing their musical instruments.

A sense of worth discusses participants' feeling worthy through musical performances of their instruments and participating in volunteering programmes.

Enjoyment and appreciation focus on participants' perceived enjoyment and appreciation when they learn and play musical instruments after retirement.

6.3.2 Development of Musical Competence

K9 *Sometimes, when my practice is going well, I feel good. When I can play songs that I know, I feel really good. And my grandchildren. When I play children's songs for them, I can get along with them and show them that I can play their songs. And whenever I go somewhere, I can play any music; since I am not a professional, it is ok to make mistakes. I can express. That is good. That is good.*
(B29)

While participants may experience challenges in learning and practising the instruments, they expressed 'feeling good' about the newly gained ability to play songs they knew. In the quote above, K9 repeated 'good' in different phrases. The first 'good' was used when speaking of his feeling 'good' when 'practice is going well', suggesting his satisfaction with a successful practice. The second 'good' illustrates his pride in his musical ability, especially when he could show his playing of children's songs to his grandchildren. K9 used the phrase 'I can show them that I can play their songs', describing the positive impacts of guitar learning, which facilitated a sense of achievement and competence in his musical abilities. This allowed him to make connections to his grandchildren through music and express what he could do well. Furthermore, K9 also shows that he developed a sense of confidence and comfort with his musical abilities, not being afraid of making mistakes. This was an important aspect of his musical competence, as he enjoyed the experience of playing music without worrying about perfection. K9 said, 'I can express. That is good. That is good', highlighting that playing the guitar allowed him to express his musical ability.

K2 *So, being born as a human being and living a fulfilling life means doing a lot of beautiful things that make our lives a plus. I am proud*

of myself to be able to play an instrument. I live a life of learning a musical instrument... which is satisfying. (B35)

Similarly to K9, K2 talked about his feeling proud of themselves for being able to play an instrument and living a life of learning a musical instrument. K2 perceived that being able to play the musical instrument added to 'living a fulfilling life', which suggests that learning the autoharp alludes to the positive impacts of musical engagement on his quality of life (Creech et al., 2013). With the aspiration for 'living a fulfilling life', the ability to play the instrument generated a feeling of 'pride' and 'satisfaction' to him. Thus, K2 attempted to report that these feelings developed from his competence in playing the autoharp contributed to life satisfaction. As such, despite the participants being all at different stages of musical development and varied musical backgrounds, it follows that feeling competent was enhanced through learning new skills on musical instruments (Bugos, 2018).

K3 *I am so proud of myself when I show my friends the ocarina. I tell them that I can play this and this, and I learned at a community centre. My friends think there is only one type of ocarina. I tell them there is this, and there is that (pointing to his ocarinas). I'm learning the 'Triple ocarina' these days. It's the first time I've seen something like this. Even to me, it's unfamiliar. So, what would they say? They say, 'Wow, I didn't know'. (B50)*

In the excerpt, K3 excitedly expressed his pride in his musical abilities, particularly in playing these unique instruments. This highlights his pride in playing *Triple ocarina*,²⁵, which was considered more advanced and unfamiliar to others. In the following excerpt, K3 further described an instance of performing the ocarina in front of his friends.

K3 *And the best thing is that now I can play my instrument to some extent and then I can play some songs when my friends come to my place. When I play in front of my friends, it's not a burden. I get nervous when I play in front of my instructor or group members. But my friends don't know the music well, so they think I'm good at it*

²⁵ One type of ocarina which is designed exclusively for maximum range (the product example: <https://www.songbirdocarina.com/products/songbird-triple>)

(laugh). So I can play without so much stress. I can play songs in my best condition. (B50)

The quote above elaborated more on K3's feeling more confident and comfortable by playing songs on the ocarina. K3 expressed that 'the best thing' for him is playing songs and showcasing them to his friends. For additional information, K3 rented an office where he could spend his free time, such as practising the ocarina and inviting his friends to tea. This context highlights the opportunities K3 had to demonstrate his musical abilities to his friends.

Moreover, K3 compared the feelings associated with playing for his friends versus playing for his ocarina instructor to underscore a sense of increased competence and confidence in low-pressure situations. K3 further elaborated that his friends were not likely to know the instrument and music well, so he was less nervous and could do his best without pressure. This allowed him to show his best ability to his friends. Here, K3 attempted to highlight that his ability to play the ocarina enabled him to have opportunities to express his competency to others, which enhanced his confidence in music and life.

K4 *So, music is one way I can spend my time because I am out of work. If I hadn't done this, I might have suffered from depression. That's right. There are a few things that I can do with confidence. It's all unfamiliar... But when I go to the group, I do better than those people. I'm the group leader. I sometimes teach them and correct them if they make a mistake. I asked them to practise it. It's fun. It's good to spend time there because of that. (B43)*

Some participants spoke about how learning and playing music has helped them to spend their time productively after retiring from work. They find themselves having much free time, feeling void and even depressed. Studies have also shown that life pattern changes after retirement often bring psychological challenges among retired people (Woo et al., 2022; Li et al., 2021). Here, K4 revealed that music was one of the ways that he could cope with changes in his life pattern. As K4 talked about his time after retirement, he was likely to realise the impacts of learning to play the instrument on his life. K4 suddenly uttered, 'That's right', as if he became cognizant of something important. Then, K4 went on to express that

playing music with the instrument facilitated confidence in his musical ability and how he could teach and correct others in his group, suggesting his perceived sense of improved musical competence through being able to help others. Moreover, taking a role as a group leader of his ensemble group provided opportunities to expand his capability and reinforced his lost confidence in life.

6.3.3 A Sense of Worth Through Beneficence

One of the common occurrences the participants brought up during their interview was their experience of musical performances as acts of beneficence. Considerable literature has discussed the potential impact of volunteering on improving the psychosocial health of older adults (Jongenelis et al., 2022). As a part of a social engagement programme at community centres or through voluntary efforts to perform their acquired musical skills in front of audiences, some participants outlined their experiences of performing music at various venues, including nursing homes, hospice centres and local community events.

K8 *A few people went to a nursing home and played for older adults there. The responses were very good. Also, we played with people from 'X Church'²⁶. There was a team dancing with sign language, wearing pretty 'hanbok'²⁷ and dancing to the song 'God gives love'. We, the harmonica team, had a good response. When they dance, people look at them, saying they are pretty, but when I play the harmonica, people sing with us the songs from the old days. They are older adults with dementia, and they often don't recognise their siblings but sing songs they sang a lot in the past. They followed it. It was amazing, and it was much worth it. How wonderful and enjoyable it was. (B12)*

K8 *Now that I volunteer, I'm so happy with those people who wait for us. When we go there, they give us candy and coffee. They are curious when we come again. I am happy to meet them. When I was playing for them, I felt rewarded because our music was helpful. I realised it was much more enjoyable for them and me. I naturally enjoy it. (B18)*

²⁶ To ensure the participant's confidentiality, the church's name is replaced with X. Throughout this thesis, 'X' will be used to redact information.

²⁷ 'Hanbok' is traditional Korean clothing.

K8 vividly described her experience of volunteering to perform the harmonica at a nursing home, highlighting the sense of worth and satisfaction she derived from the positive responses received from the audience. She expressed how her group's music performance evoked positive emotions and triggered memories among the nursing home residents, making the experience even more meaningful. K8 felt astonished by the people's reaction, which was to sing along with her playing. K8 associated their reaction with more therapeutic impacts of her playing, reflecting on the audience's marked symptoms of the disease at the nursing home.

Observing people's amusement while performing old songs on the harmonica, K8 experienced a profound sense of worth due to her performance. K8 reflected that the music performance of old songs brought about feelings of worth and satisfaction, leading to her belief in taking a meaningful role through music. Moreover, K8's ability to deliver preferred songs to the residents further enhanced her belief in being a positive influence through her musical skills. This expanded her capacity to be a source of positivity, creating enjoyable moments through her music.

In the second excerpt, similar to the previous excerpt, K8 reflected on her sense of worth and satisfaction derived from volunteering, perceiving it to impact others positively. K8 described the happiness she felt knowing that her music was helpful and enjoyable for the people at the nursing home. This reaffirms her belief that her performances brought value to others and reinforced her sense of worth. Her reflection conveys K8's feelings and the significance she attributed to her volunteer work.

K1 *The person who leads our church choir, got cancer. He lives in OO. I heard that the men's choir from our church went there and sang for him, which was very gracious. So, I told my husband we should also go there and volunteer for the terminal cancer patients. I went there with 9 songs. First of all, there were the pastor and his wife. That wife first prayed, and (we) played 3 pieces. Then Mr X, the evangelism king at the OO Church every year, prayed in the middle, and we played 3 pieces again. While we played the final three pieces, the elderly president prayed. After the couple had listened to all our pieces, they held my hands tightly and said it was like an*

angel descending from heaven. That was such a memorable moment that I cannot forget. I felt like I was a helpful person. (B12)

K1 outlined one of her experiences performing the autoharp with her group for her terminally ill acquaintance. As mentioned above, performing music as volunteering was common as part of a community music programme with which some participants regularly engaged. K1 acknowledged that people were grateful for their performances, referring to the metaphorical expression 'an angel descending from heaven'. K1 conveyed unforgettable moments and transformative moments created through playing autoharp with her group. These experiences gave K1 a deep sense of being worthy, as she provided comfort and support through her musical performances. The recognition of being helpful contributed to her sense of taking on a meaningful role. As the interview progressed, K1 became more articulate in expressing her feelings, transitioning from using the phrase 'it was like' to 'I felt like'. This language change reflects her growing ability to articulate her emotions and highlights her music's significant impact on her sense of worth and purpose.

Studies have indicated that group musical engagement, particularly in singing in a choir, fosters a sense of contribution and belonging within society (Perkins et al., 2020). However, when it comes to playing musical instruments, some participants in this thesis talked about having opportunities to perform as a part of their community programme. These performances allowed them to perform in various settings as a voluntary act. These performances, undertaken voluntarily in various settings, gave some participants a sense of worth and the chance to be recognised as individuals who could benefit others. This feeling of worth was particularly significant for those who experienced a sense of isolation after transitioning from full-time work. The sense of worth derived from their voluntary performances drove their continued engagement in music learning and playing.

6.3.4 Enjoyment and Appreciation

Fun and enjoyment have also been recognised as necessary in learning for older adults (Lightfoot & Brady, 2005; Lucardie, 2014). Older adults' musical participation also

finds enjoyment to be one of the significant factors in their musical engagement (Sandgren, 2009). Given that, throughout the interviews, enjoyment was a theme identified and mentioned by some participants. The adnominal word [*jeulgeoun*], translated as 'enjoyable' in English, was manifested throughout participant data. To examine the hermeneutical relevance of learning and playing the musical instrument, the following analysis examines participants' enjoyment of musical learning and playing and moments elicited by successful musical experiences.

K10 *So when I play the guitar, time passes quickly. Now my husband is retired too, and he's at home, so it's different from the two of us doing something together daily. I'm glad I can play and practise guitar when I have time at home. My husband wants me to spend time with him, but he is in the living room, and I can't practise the guitar there. He watches TV, but I enter my room to practise and play. I play whenever I have free time as I want to play. I enjoy it, and I want to play it. (B3)*

In this quote, K10 shared her experience practising the guitar during her free time at home. She expressed that time passed quickly when she was engaged in playing the guitar. Despite her husband's desire for more quality time, K10 felt a strong need to play and practise the guitar, prioritising her enjoyment and appreciation of the instrument. K10 highlighted this devotion by stating, 'I enjoy it, and I want to play it', which expressed K10's joy in playing the guitar. The following quote further supports her positive emotional connection to the instrument.

K10 *Regardless of age, for now, I spend my time playing my instrument which is accessible. I can be younger, have fun, and I can be happy through myself and also, I can make other people happy. So, no matter what instrument you play, you have a lot of joy with just one instrument, so I recommend learning at least one instrument. (B42)*

The enjoyment of playing the instrument is plain in K10's language. K10 pointed out that age did not limit the ability to enjoy playing an instrument, advocating that individuals her age learn at least one instrument to experience the joy it might bring. The physical property of the instrument was also mentioned in the quote above. K10 considered the guitar

an accessible instrument, and the accessibility of the guitar led her to have more opportunities to play and, at the same time, enjoy the music more. As such, the sensation of 'having fun' and 'being happy' allowed K10 to feel enjoyment and elicited language that could be associated with the enjoyment state. The language of 'having fun', 'being happy', and 'making others happy' all highlighted the importance and impact that playing and practising the musical instrument had on the individual, which was a state that K10 enjoyed.

K6 *It is my hobby and speciality at the same time. I am a person who enjoys playing it. Instead, I enjoy it; enjoyment is the most important thing you need. My friends sometimes envy me. They envy me because I did it when I was young and because I do what I enjoy. And now I have a house to live in. I am not a rich person, but I have a family, a pension, and something I can enjoy. There are not many things to complain about. (B 19)*

It is worth noting that enjoyment was a marked motivation to continue K6's learning the instrument and an indicated driver of his satisfaction with life after retirement. K6 referred to himself as a person who enjoyed playing and highlighted enjoyment as 'the most important thing' for his musical experience. K6 reaffirmed the importance of enjoyment by talking about his friends, whom he believed were envious of his ability to play the instrument and enjoy music-making after retirement. It suggests that doing what he could enjoy was perceived as one that promoted quality of life. He listed components that satisfied him with his life, such as having a house, a family, a pension, and 'something', which indicated playing music. This perspective led him to believe that 'there are not many things to complain about', contributing to his overall well-being.

K5 *One time I bought several ocarinas, and it seems not.*

R *What seems not?*

K5 *Sound. The sound is different from what I like. The pitch was out of tune, and I was not satisfied with it, so I was disappointed. When it comes to music, it is different whether you perform well or not or if you play a great piece of music. I need to enjoy playing it. If I play with other people, I am happy, happy by myself. I cannot find anything else that is a sesame salt sprinkling. (B123-125)*

The instance when K5 initially tried to learn the ocarina but eventually switched to another instrument suggests that for him, one of the important factors when engaging in musical activities was enjoyment. Again, K5 mentioned that playing the trumpet with other people made him enjoy playing, highlighting that enjoyment was essential for him to continue playing the trumpet. K5's enjoyment of playing the trumpet was again described using a metaphor, 'a sprinkling of sesame salt to me'. This metaphor is often used in the Korean language, which describes being in a euphoric mood, implying K5's feeling of enjoyment as a result of music-making through his instrument, the trumpet. As such, K5 reported the enjoyment of playing the trumpet, which brought a feeling of satisfaction to his life.

K1 *I used to play just the autoharp. I only played it when I was learning. But when I tried only playing it, it could have been more fun. I might learn and play the autoharp quickly if I only play the instrument, but I changed my way. I started to play the autoharp and sing songs at the same time. Like I played 4 bars with singing, trying 20 times and 20 times. Even if the progress was slow, even if it was slow, it was fun to do it while singing. It is really fun. I told other people, and they seemed to have fun and enjoy themselves more. I made myself want more. (B30)*

K1 found enjoyment through playing the autoharp and singing simultaneously. Initially, she only played the autoharp but found that incorporating singing could be more fun. Although she had to go through practising '20 times and 20 times', generating slow progress, she found it enjoyable to play and sing simultaneously. This enjoyment motivated her to continue practising and to share her experience with others. The quote also suggests that she enjoyed learning and improving despite difficulties in which singing and playing together created a sense of pleasure and fulfilment distinct from playing the instrument alone.

6.3.5 Discussion

Participants talked about how learning musical instruments positively affected personal development, even though they had different levels of ability, attitudes towards learning, and musical goals and needs.

Participants discussed their experiences of learning and developing their musical skills. They highlighted the importance of consistent practice and dedication in improving their musical abilities. They emphasised the need to be open to trying new activities and exploring different genres and styles of music to broaden their musical horizons. The participants demonstrated a solid commitment to continuously developing their musical competence.

Participants shared their experiences using their musical skills to help others and contribute to their communities. They described how volunteering experiences gave them a sense of worth and purpose. They have also highlighted the role of music in creating connections and fostering social relationships. In addition, some participants talked about the satisfaction they derive from using their musical abilities to help other members of their music groups, such as by driving or taking care of technical aspects. These experiences helped them feel valued and appreciated.

Participants emphasised the importance of enjoying music. They discussed the enjoyment and satisfaction they derived from playing instruments. They also highlighted the role of music in providing a source of joy and promoting life satisfaction. Some participants described how they found new ways of enjoying music, such as playing in new genres or singing while playing their instruments. Given that, participants felt a strong appreciation for the role of music in their lives and its ability to bring them joy and fulfilment.

Interestingly, all three themes - development of musical competence, a sense of worth through beneficence, and enjoyment and appreciation - were interconnected. For example, the participants' dedication to developing their musical skills enabled them to use their talents to help others, giving them a sense of worth and purpose. Similarly, their enjoyment and appreciation of music motivated them to continue learning music. Therefore,

it was important to recognise that these themes were not mutually exclusive but a more interconnected music-making experience.

6.4 Reflection on the Instrumental Music Learning

6.4.1 Background

Criticos (1993, p.162) states, 'Effective learning does not follow from a positive experience but from effective reflection'. In instrumental music learning, reflection allows learners to critically examine their experiences, evaluate their progress, and identify areas for improvement. As such, reflection is an essential component of music education that helps learners develop their musicianship and advance their musical skills.

This section explores participants' reflection-on-action, a type of reflection that involves a distanced examination of past musical experiences (Schön, 1991). Unlike previous sections that explored participants' perceptions of the positive impacts of instrumental music learning, this section delves deeper into the critical reflections of participants on their learning experience, including the role of facilitators, the dynamics of group learning, and the self-evaluative process of learners.

The third GET, 'Reflection on the instrumental music learning', deals with two PETs: **The role of facilitators** focuses on participants' perception of the critical role of facilitators or leaders who teach and decide music repertoires in their group learning context. **Self-criticism** deals with participants' evaluation of themselves, revealing self-criticism within a group music learning context (Bayley & Waldron, 2020; Roulston et al., 2015).

6.4.2 The Role of Facilitators

K7 *What I am unsatisfied with is... There are fifteen people in our group. What I felt when I was in the group was... I really wanted to play the harmonica proficiently, so I wanted to learn more details of how I could play the harmonica well [names of specific techniques], but they taught us to play songs, play songs. And go to the next*

songs, and so on. I had to go to the next songs before playing them well. There is an imbalance between students and tutors. I realised I needed to play three or four different types of harmonicas. Considering my age, there is a big gap that makes me feel pressured. I wished I could follow the pace and the tutor would understand it. So, I wish there are more serious and deep communication between learners and tutors. (B21)

Here, having fifteen learners in her group, K7 expressed discontent with its learning pace and objectives, which were discordant with her needs. In the quote above, K7 showed she wanted to 'learn more details' of music techniques, however, her group's instructional approach was 'just to play songs and go to next songs and so on'. This imbalance between K7's goals and the facilitators' teaching methods led to frustration and pressure on her, which affected her overall experience of learning and playing the harmonica in a group. K7 felt the need for 'serious and deep communication between learners and tutors', which could help address the imbalance and make the learning experience more satisfying for all involved.

The importance of a facilitator or leader for facilitating activities with older learners has been discussed in the literature. Hallam et al. (2016) point out that 'the interpersonal qualities, teaching strategies, skills, and knowledge of leaders, and facilitators may be more important, in some cases, than the content itself' (p. 20). K7 appeared frustrated by not achieving her learning goals, wishing her facilitator to comprehend her difficulties. Given that older adult learners perceive self-paced learning as more critical compared to a traditional lecture, K7 wanted clear communication or guidance from the facilitators with control of her learning pace and being aware of her learning progress (Boulton-Lewis, 2010).

K4 *Our conductor was a person who wanted to play only classical music. He didn't know anything about popular music. Members made a lot of suggestions. Because we only make classical music at concerts, the audience got blank with little responses. So, we said, 'let's play some pop songs or music from movies, or let's do a few Trot songs'. But it did not work through. So, we had a conflict with that person. I was a little sad because of such operational disputes. I was 62 at that time. I was thinking let's go with music that I want to play rather than other people. So, I quit it. (B6)*

K4 illustrated his experience of conflict between a conductor of an amateur ensemble and its members a few years ago to highlight the significance of facilitators being receptive to the interests and suggestions of the group members. K4 further considered the importance of striking a balance between the facilitator's objectives and the group's interests, which, in turn, would lead to a more positive and enjoyable group music learning environment. Whilst disappointment in teaching strategy was seen as an inconvenience instance by K7 above, K4 revealed frustration resulting in the ensemble leader's lack of respect for group members' needs. This is in line with the previous study, which claims that the choice of repertoire and matching to the preference of adult learners in a group is essential for maintaining their engagement in music (Hallam et al., 2016). K4's dissatisfaction was a critical factor in quitting the ensemble and seeking places where his musical needs could be satisfied. K4's illustration demonstrates the importance of effective facilitators who can sustain participants' motivational interests (Duay & Bryan, 2008).

6.4.3 Self-criticism

K9 *I don't know about the guitar, but for harmonica, I could feel much difference, so I did not want to do it one day.*

R *What difference?*

K9 *The difference in musical ability. The harmonica needs musical ability.*

R *For in what part?*

K9 *I felt that people who do well. Those who have musical ability. They play naturally, and they can play easily. I know it is different for people, but still. I keep losing track of what is going on. For instance, I need more time to look at the score and the chords. I missed that! But a person next to me was playing easily. It seemed so easy (laugh). Then I was thinking to myself, 'Why can't I? I am so bad'. (B59-63)*

While talking about learning the guitar and harmonica in the group context, K9 recollected when he wanted to quit learning as he struggled to keep up with the rest of the class. K9 noted that he felt a significant difference between their ability and that of others in the group, particularly those with natural musical ability. This feeling of difference and

perceived lack of ability can lead to negative self-evaluations and self-criticism. The illustration of learning the guitar chords illustrates K9's dealing with his inner critic by comparing himself with a person next to him and evaluating himself. This struggle to keep up with the group further contributed to K9's self-criticism and negative evaluation of his ability, as evidenced by his inner negative voice, 'Why can't I? I am so bad'. This inner critic is more likely to discourage participants' motivation and continuation of musical engagement (Bayley & Waldron, 2020; Roulston et al., 2015). Some studies claim that the inner critic is mitigated by encouragement from teaching personnel or ensemble conductors and by gaining more successful musical experiences (Roulston et al., 2015).

K7 *Even though we are seniors, some are a little younger, and some are older. However, I felt in that group that there was a team of people who came together as a couple. And then some people practise a lot after classes. Sometimes, I need to catch up, but I know that the harmonica is small and easy to learn. If I practise hard at home, I can master it by practising alone. But I can hear other people playing and start comparing one another. Sometimes I play better, and sometimes that person plays better. I try to make sure that I don't fall behind, but still I check my sounds and other people's sounds and get frustrated from time to time. (B37)*

Here, K7 noted that people in the group practised a lot after class and identified varied levels of effort they put into learning, making her compare with others and feeling pressure to keep up with their progress. Moreover, K7 felt frustration when she thought she felt behind the group's pace, assessing her sounds and comparing them to other group members. The fact that she got frustrated occasionally indicates that she struggled with negative self-evaluations and self-criticism. K7 revealed that she compared playing with others by having an inner voice described as 'I play better, sometimes that person plays better'. K7 reiterated this inner voice by saying, 'I check my sounds and other people's sounds', feeling more frustrated when she was unsatisfied with the sounds. K7 highlighted the impact of self-comparison on the group music learning experience and the potential for self-criticism to arise from this comparison.

K10 *I was shy. It has been a long time since I learned something in a group. Now I feel much better, but at the beginning, I was shy. I was afraid that someone might hear my unpractised sound. When learning difficult rhythms and chords, I looked at others and saw if they had a difficult time. I hoped I didn't fall behind, but I cannot deny that I was conscious of others. I checked that I was at the right pace. I didn't want to be looked like a dumb person. (laugh)*

K10 revealed her self-consciousness and fear of being judged by others in the group. The participant admitted to being shy and afraid of others hearing her unpractised sound, which suggests that she felt insecure about her musical abilities. K10 also mentioned checking her pace to ensure she did not lag behind and did not want to 'be looked like a dumb person', indicating a desire to perform well and avoid negative judgment from others. Here, K10 acknowledged discomfort from her thoughts 'some might hear my unpractised sound'. This could suggest that as the group learning context inevitably involves learning together, participants dealt with the inner critic who constantly judged themselves within the context of others. Some might find learning new skills in a group context challenging and feel more comfortable learning in a one-to-one teaching environment. This type of learning environment requires flexibility from both learners and facilitators.

6.4.4 Discussion

Participants reflected on critical perceptions of their instrumental music learning in groups. Some expressed their perception of the critical role of facilitators or leaders who teach and decide music repertoires in their group learning context. Some participants felt that their individual needs and preferences needed to be met, focusing more on teaching songs than specific techniques. Others felt a need for more communication and understanding between the learners and the facilitators, creating an imbalance in the learning process. The group dynamics were affected by the facilitators' preferences, leading to conflicts and dissatisfaction among the members.

Participants reflected on their evaluation of themselves in the group learning context, revealing self-criticism. They compared their progress and ability to others, and some

participants felt pressure due to the age gap and their perceived lack of musical ability. Others were conscious of their performance and afraid of being judged by others. Despite these challenges, some participants found solace in practising alone and believed they could master the instrument through hard work and dedication.

Participants' critical reflection on learning and playing their instruments in a group highlighted the importance of a facilitator's role in creating a positive learning environment catering to each member's needs and preferences. This included clearly understanding the learners' abilities, goals, and expectations. Participants' experiences revealed the significance of managing self-criticism to avoid discouragement and keep motivation levels high.

6.5 Conclusion

Participants reported complex perceptions and experiences of an instrumental music group. Participants discussed how learning and playing musical instruments in a group promoted social outcomes associated with musical participation, such as promoting social cohesion and addressing social isolation. Participants' accounts of the social benefits of learning and playing musical instruments corroborate previous studies which highlight the importance of social aspects of instrumental music group participation for older adults (Coffman & Levy, 1997; Creech et al., 2013; Ernst & Emmons, 1992; Jutras, 2011; Jutras et al., 2015; Joseph & Human, 2020). Social interaction and developing meaningful relationships are essential for promoting well-being and reducing loneliness and isolation among older adults (Steptoe & Fancourt, 2019). For some participants, learning and playing musical instruments in the group were regarded as a platform to engage with like-minded people and form social connections through shared musical interests. Participants revealed that these connections extended beyond the musical realm to other aspects of social life, facilitating them to feel a sense of belonging to a music community. Therefore, participants

considered active music-making a powerful tool for facilitating social interactions and forming connections.

Participants also highlighted the importance of consistent practice and dedication in improving musical abilities. They also shared how their musical performance to contribute to their communities gave them a sense of worth and purpose. Participants further emphasised the importance of enjoying music and how it brought enjoyment and fulfilment. These themes were found to be interconnected, as the participants' dedication to developing their musical skills enabled them to feel a sense of purpose in life and have the enjoyment of music motivated them to continue learning.

Nevertheless, participants reflected on critical perceptions of their instrumental music learning in groups. For instance, they discussed the critical role of facilitators or leaders who teach and decide music repertoires, with some feeling their individual needs and preferences needed to be met. Participants highlighted a need for more communication and understanding between the learners and the facilitators, leading to conflicts and dissatisfaction among the members. Participants also reflected on self-criticism and comparison to others, leading to pressure and anxiety. Overall, participants recognised the importance of a facilitator's role in creating a positive learning environment catering to participants' needs and preferences and contributing to their musical motivation.

The discussions and reflections of participants on musical participation revealed the potential for music to promote positive social outcomes and personal development. Social outcomes were primarily driven by forming social connections and networks through shared musical interests, which could address social isolation, especially among older adults. Personal development was facilitated through consistent practice and dedication, exploration of new genres, and contribution to the community using their musical abilities. The critical reflections on instrumental music learning in groups revealed the importance of a facilitator's role in creating a positive learning environment that caters to each member's needs and preferences and managing self-criticism to avoid discouragement. Therefore, these insights

into the impacts of learning and playing musical instruments in groups encouraged participants to engage in musical activities for personal growth and social interaction.

7. Discussion and Conclusion

This thesis has aimed to uncover older adults' experiences learning and playing musical instruments and the associated technology used after retirement. Previous studies have long advocated the benefits of various musical engagements among the older population, particularly in an ageing society. Moreover, the rapid development of technology has changed many aspects of our experience in music. However, the literature review chapters identified a need for studies on older adults' subjective experience of active participation in music in the digital age, characterised by the widespread adoption and integration of digital technologies into various aspects of life. Therefore, this thesis has sought to address these gaps in research by attending to how older adults make sense of their subtleties of active participation, particularly learning and playing musical instruments after retirement in the context of the digital age.

The overarching research question was '**How do older adults perceive and engage in learning and playing musical instruments after retirement in the digital age?**' and the constituent questions were: RQ1) Why do older adults take part in learning to play musical instruments after retirement? RQ2) How do older adults experience digital music technology for learning and playing musical instruments? RQ 3) What are older adults' perceived impacts of group learning and playing musical instruments on the lives of older adults after retirement?

In addressing these questions, this thesis has attempted to capture participants' lived experience of learning and playing musical instruments after retirement and digital music technology use through an inductive, idiographic approach using Interpretative Phenomenological Analysis (IPA). Through the in-depth semi-structured interview data analysis, themes emerged and were subsequently organised into the overarching themes presented as chapter titles in Chapters 4, 5, and 6. Within these chapters, Group

Experiential Themes (GETs) and Personal Experiential Themes (PETs) were further elucidated and illustrated in Figures 11, 12, and 13.

This concluding chapter begins with a comprehensive evaluation of the analysis method (7.1). Subsequently, the findings from the preceding chapters are synthesised (7.2), leading to a clear exposition of this thesis' contribution to the field of related studies and knowledge (7.3). Finally, the limitations of this research are thoroughly discussed (7.4).

7.1 Evaluation of the Analysis Method

Interpretative Phenomenological Analysis (IPA) has become one of the commonly used qualitative methodologies in various research fields, and it has informed the data analysis for this thesis. Several reviews of IPA research have been conducted, offering the features of quality IPA work (Smith, 2011; Nizza et al., 2021). Among the important features are 1) Keeping focused and offering depth; 2) Presenting robust data and interpretation; 3) Engaging and enlightening the reader (Nizza et al., 2021, p. 2). These features highlight the importance of obtaining good data through well-conducted interviews and engaging in double hermeneutics, facilitating a deeper interpretation of the participants' experiences.

Interviewing is crucial in IPA and was extensively employed in this thesis. However, it is important to acknowledge that acquiring proficiency in conducting interviews requires significant time and effort (Smith, 2011). With this in mind, the researcher carefully considered setting up a friendly interview environment for participants to feel comfortable and safe before and during the interviews. Before the interview, pre-interview via phone, which aimed to explicate the purpose of the research and the researcher's educational background and to have a casual conversation, served as an opportunity to build rapport between the researcher, an interviewer, and participants, as interviewees. Furthermore, as part of a doctoral training programme at the Institute of Education, University College London, the researcher took training courses specifically focused on interview techniques, helping the researcher develop expertise in conducting interviews. Techniques learned

during the training, such as taking notes immediately after each interview, aided in refining interview questions and adapting prompts to elicit rich and meaningful responses from the participants.

This thesis implemented two artefact elicitations, photo-elicitation, and object elicitation, as interview prompts to elicit 'thick description' (Douglas et al., 2015) from participants. The researcher/interviewer brought the photographs to the interviews, and the participants were asked to bring their musical instruments (if possible) as object elicitation, which was discussed in detail in Section 3.3.3. of Chapter 3. These artefacts strengthened participants' deep reflection on their musical experience, rendering their interpretation of musical participation. Some participants spontaneously played their instruments during the interview, which proved a successful interview stimulus for participants, eliciting an additional qualitative dimension of their musical instrument experience. This method of multiple artefact elicitations is a novel approach to qualitative inquiry on musical instrument participation. However, this thesis contributed a valuable contribution to helping participants to answer questions in profound and meaningful ways.

This thesis was designed around participants learning a musical instrument at a community centre; some were local ensemble members. Participants played different musical instruments and were not in the same group, as the aim of the thesis was not to focus on a particular group within a specific setting but rather to explore the experiences of individuals involved in learning and playing musical instruments across various contexts. This approach allowed for identifying commonalities and unique aspects within the participants' experiences (Smith, 2011). Moreover, having experiences of learning and playing musical instruments for an extended period after retirement, participants could concentrate on musical experiences which held significant meaning and existential importance in their lives, as with all IPA (Smith, 2011; Smith et al., 2021).

In order to keep the analysis of this research interpretative, not just descriptive, the researcher tried to make sense of the participants' efforts to make sense of their experience. This is another core feature of IPA, the double hermeneutic. With the researcher as the

interviewer, it was possible to have preconceptions during the interview and the first-order analysis. Therefore, a conscious effort was necessary to ensure an inductive view of the data while bracketing preconceptions. Consequently, unforeseen PETs were identified in relation to their adoption and appropriation of digital music technologies and their perceptions of the group learning context.

Nonetheless, there were some limitations and challenges in analysing the interview data. Firstly, there was a lack of IPA-related literature on analysing interviews conducted in another language, resulting in limited guidance on this aspect. To mitigate this limitation, the researcher, who speaks both languages fluently, made every effort to ensure that the nuances of what was being said were well translated into English (see Section 3.5). Secondly, as this thesis relies on participants' accounts, there might be questions about whether eloquent participants who speak fluently to describe their experiences are particularly suited to IPA research. In this case, the interviewer, as a researcher, took a critical role in enabling a free and frank conversation within the interviews and reflections on their experiences with the artefact elicitations (see Section 3.3.3).

In all, the semi-structured interviews conducted in this thesis provided a rich and valuable dataset for analysis. Using IPA as a qualitative research methodology provides a flexible and versatile approach to understanding people's experiences (Smith et al., 2021). By employing semi-structured interviews with artefact elicitations, participants were encouraged to reflect on the phenomenon of learning and playing musical instruments in the digital age. This approach effectively focused on participants' active music-making, ensuring that their lived experiences remained central to the investigation.

7.2 Key Findings

This thesis explored how older adults in South Korea perceived and engaged in learning and playing musical instruments after retirement in the digital age. The participants in this thesis were individuals who had retired from their full-time work and were actively

involved in learning music at local community centres. Additionally, some participants were members of ensembles such as amateur orchestras or performance groups. For the participants, learning and playing musical instruments after retirement held significant meaning, providing them with a sense of fulfilment, rewards, and challenges. Furthermore, all participants in this thesis utilised smartphones, demonstrating their active engagement with these devices. Specifically, some participants recognised the benefits of platforms such as YouTube and music-related mobile applications, which enhanced their musical learning and playing experiences. The following key findings of this thesis contribute to our understanding of meaningful participation in musical instrument learning and the use of digital music technology after retirement. Moreover, these findings address the research questions (RQ1, 2, and 3) posed in this thesis, providing valuable insights into the experiences of older adults in this context.

7.2.1 RQ1: The Contextual and Personal Factors as Musical Motivations

Chapter 4 discussed how participants reflected on their motivations for learning and playing musical instruments after retirement. Previous studies on musical motivation focused on children and adolescents, highlighting the interactions between different factors that affect motivation, including environmental factors such as culture, institutions, family, and education, as well as internal factors such as cognition and emotions (Evans et al., 2013; Hallam et al., 2016; Hallam et al., 2021; Sichivitsa, 2007). During the research for this thesis, participants shared their reflections on the desire to be involved in meaningful participation after retirement and how this served as a motivational factor for their musical participation. The findings highlighted the significance of recognising the complex interplay between contextual and personal factors in shaping musical motivation in older adults.

Participants' musical motivation intersected with a life transition where they encountered various changes due to retiring from full-time work and entering older adulthood. Retirement, which involves non-participation in the labour force or reduced work hours and earnings (Denton & Spencer, 2009), often results in many changes in individuals'

daily routines that force them to have to deal with social, physical and psychological consequences (Plawecki & Plawecki, 2016; Stenholm et al., 2016). As such, participants considered that learning and playing musical instruments at all levels would connect to the social and emotional benefits during a life transition such as retirement. Notably, participants expressed their social isolation or emotional distress due to life changes such as increased free time (K10, K3), the loss of a spouse (K8, K9) or reduced social connection (K2, K4, K10). They considered that learning and playing musical instruments would serve as a coping mechanism for the challenges, providing a sense of purpose and social connections. These findings highlight the need for music educators, healthcare providers, and policymakers to consider emotional and social support needs when promoting and supporting musical engagement in older adults who experience the transition into retirement.

Personal factors also played a significant role in shaping musical motivation among participants. The findings suggest that developing musical aspirations significantly motivated participants to engage in musical activities. Some participants who considered themselves musically skilled were motivated to engage or re-engage in musical activities. Recalling participation in school brass bands or receiving positive feedback from their schoolteachers helped participants consider themselves as having musical ability to some extent. Participants cherished these memorable experiences, indicating that earlier formal and informal music learning experiences influenced their perception of music. Therefore, these experiences shaped some participants' perception of music, suggesting that earlier formal and informal music learning experiences afforded a great degree of desire to engage or re-engage in playing musical instruments. Building on positive early musical experiences and lifelong interests, participants were firm in asserting that memories of positive feedback from others or successful musical experiences testified to having musical ability. Given that some literature suggests the importance of music education in early life for lifelong engagement in music, the participants' reflections corroborate previous literature to some extent. Furthermore, not all the participants in this thesis had early music experience. Some participants expressed their aspirations built on a lack of opportunities for music learning and

a desire to develop musical ability and engage in what they enjoy. This often manifested as a lifelong pursuit for participants. As such, participants reported having different levels of personal and contextual factors, which manifested as a need for meaningful participation.

On the other hand, learning a musical instrument was a lifelong aspiration they could not pursue earlier due to various reasons, such as a lack of opportunities and time or financial constraints. As such, retirement was perceived to provide an opportunity for participants to pursue their interests and passions, as they saw acquiring musical skills as a means of personal growth and development. Learning a new musical instrument or improving their skills was considered a fulfilling experience, allowing them to continue learning and growing even in their later years. Life after retirement is considered a phase for re-engagement with various opportunities, especially for exploring one's potential, which enables one to enrich later life experiences (Chen, 2011). As such, participants considered retirement an opportunity to pursue the musical interests they may have missed during their earlier life due to professional and family duties. Increased leisure time and the need for meaningful engagement after retirement drove some participants to seek out musical activities. Retirement also allowed participants to explore and develop their musical skills as a lifelong pursuit, which had often been limited during their work life. Participants' musical motivation was drawn from a need for meaningful participation, and they considered learning and playing musical instruments would develop and expand their musical interests and aspirations. Since participants had learned and played musical instruments for at least a few years (see Table 11), they considered their motivation to engage and retain a musical instrument was not mere 'interest' but a 'need' on varying levels. Therefore, their musical motivation goes beyond the mere attainment of musical skills or knowledge but personal development and coping.

Humanistic psychology theorists Carl Rogers and Abraham Maslow take human potential and desire for growth as basic assumptions. Particularly, self-actualisation is at the top of Maslow's hierarchy of needs, which sees people have an intrinsic drive towards growth and self-development. Rogers and Maslow assume people seek purpose and

meaning in life with a need for improving themselves and seeking fulfilment. Rogers' actualising tendency, a built-in motivation in every life form, is to make the best of people's existence. Therefore, people have an intrinsic drive for self-development. The findings from Chapter 4 suggest that the musical motivation for participants reached deep, which implied that participants strived to go beyond the given, pursuing personal growth accompanied by feelings of fulfilment and satisfaction. This suggests that a need for meaningful participation was built on participants' personal and contextual factors with an underlying belief that music instrument learning and playing would enable their full potential and generate feelings of fulfilment and satisfaction.

Recognising the complex interplay between contextual and personal factors is crucial for understanding and shaping musical motivation in older adults. Contextual factors such as the impact of retirement on musical motivation have provided more opportunities for older adults to pursue their musical interests. Factors such as early music experiences, desire for personal growth, and lifelong learning also significantly influence musical motivation. The interaction between these personal and contextual factors can either facilitate or hinder musical motivation. Therefore, it is essential to understand the contextual and personal factors that influence musical motivation in older adults. Music educators, healthcare providers, and policymakers can take several measures to promote musical engagement in older adults. These measures include increasing access to musical resources, such as providing social support networks and creating tailored musical education and engagement opportunities which can enhance musical motivation. It is important to consider the role of technology in supporting musical experiences and providing access to technological tools that facilitate musical learning and engagement.

In this thesis, participants' musical motivation goes beyond the mere attainment of musical skills or knowledge. Their motivation was driven by a need for meaningful participation, which they believed would enable personal development and coping. Moreover, in-depth interviews allowed the analysis to explore the personal and contextual factors influencing musical motivation thoroughly. The findings underscore the pivotal roles

that various personal and contextual factors play in motivating lifelong engagement with music.

7.2.2 RQ2: Digital Music Technology as a Valuable Medium for Musical Experiences

Digital engagement is significantly influenced by sociodemographic factors, individual agency and social context (Safarov, 2021). Previous studies often pointed out older adults' limited understanding of information and computer technology and their struggles to enjoy the benefits of digital devices, which were perceived to be less accessible (Czaja, 2016). However, Chapter 5 revealed that participants had a varied knowledge of digital technology and identified themselves as 'frequent users' who had been adopting it. This high prevalence of digital device ownership, such as smartphones among participants (see Table 9) supported the findings of a recent survey that 96% of South Korean adults over the age of 50 own a smartphone, representing the highest smartphone penetration rate globally (Wike et al., 2022). Moreover, the survey further reports that ownership among older adults has grown substantially since 2015, increasing from 74% to 96%.

The participants' prevalence of smartphone ownership and self-identification as frequent users were further reflected in their use of digital music technologies, particularly through mobile applications. Within this context, some participants in this thesis considered online video-sharing platforms such as YouTube and music-related smartphone applications as their preferred digital music technologies. This aligns with existing research indicating that YouTube is one of the most visited websites and used mobile applications among older adults in South Korea in tandem with a substantial increase in the use of smartphones among older adults (Kim, 2019). The prominence of YouTube and music-related smartphone applications reflects the evolving technology landscape and the digitisation of society. Some participants adopted specifically YouTube and music-related mobile applications for their music learning due to their perceived benefits, including ease of access, ease of use, and educational value.

Reflecting on participants' practice of musical instruments, some participants perceived that engaging with YouTube and mobile applications supported their learning of music. YouTube was recognised as a repository of music sources that can be instantly accessed through their devices and as the medium of autonomous music learning. These findings reflected previous research, which reported that ease of use and access was one of the most important factors for adopting technology among older adults (Venkatesh et al., 2012). As such, it was evident that the participants were keen to use YouTube and perceived its value as a medium for enriching their music instrument learning and playing experiences.

Emerging from the in-depth reflection on their use of YouTube, participants clearly articulated the multimodal aspect of video, which precisely benefited learning the musical instrument. They highlighted how this aspect of YouTube greatly facilitated their learning of musical instruments by allowing them to observe and model exemplary performances and self-evaluate their playing. The availability of a wide range of tutorials and exemplary videos further enhanced their experience of self-directed music learning, characterised by taking control of their learning processes and actively engaging in the learning experience (Knowles, 2020; Mezirow, 1985). Even though participants were learning and playing their instruments in group settings such as community centres or ensembles, their use of YouTube was situated in a more self-directed context, such as for practising their instruments.

The participants also attributed their increased use of technology to the COVID-19 pandemic and social distancing measures. As they turned to smartphones, computers, and YouTube to cope with the lack of social interaction and activities, digital technologies were perceived as important for maintaining social connections and reducing feelings of isolation, even in the context of their musical activities. The participants also emphasised the role of digital technologies in facilitating group interactions and supporting shared interests, particularly in the group music learning context. This highlights the significance of social

influence in shaping individuals' attitudes and behaviours towards digital technologies, as discussed within the UTAUT model (Venkatesh et al., 2012).

The other key finding from Chapter 5 is that the technological competencies further contributed to embracing digital technology for their musical participation. This digital competence was described as a 'building block' that determined whether and how individuals used digital systems or were willing to use them (Janssen et al., 2013). Some participants identified themselves as active users with social and informational motivation in technology use. Nevertheless, at the same time, some participants expressed concerns about their ability to effectively use digital music technology for their musical learning while being interested in its use. For that, participants considered digital literacy as an important criterion for using digital music technologies effectively.

Competence in technology use is one of the significant factors influencing digital device usage (Alawan et al., 2018). Human-Computer Interaction (HCI) researchers report that the ability to use digital devices and software affects older adults' motivation and willingness to adopt them (Kim et al., 2021). Participants perceived that knowing how to use the functions of the technology devices enabled them to broaden their musical experiences, such as listening to music and learning about new songs for their musical instruments. Some of the perceived competence was influenced by participants' former work experiences, which extended their use of music-related digital technologies. Also, perceived competency in digital music technology use was accompanied by an open-minded and forward-looking attitude to their use of digital technology. Given that, the idea of older adults' passive attitude toward its adoption was refuted by some participants who revealed the positiveness of adapting emerging technologies for their musical experiences. As such, some participants reflected that using digital music technologies was not perceived as an age-related concern but more one of competency.

On the other hand, participants who felt less competent in using digital technology expressed having limited opportunities to learn about its functionality and benefits despite being interested in its use. These participants perceived that their age alone was not the

primary barrier to utilising digital technology for their musical experiences. However, the accumulated competency and attitudes towards technology use significantly influenced their adoption of digital music technology.

Overall, the findings from Chapter 5 suggest that the high prevalence of digital device ownership, especially smartphones, among the participants supported the notion that digital technology has become more accessible to older adults in recent years. In terms of music participation, the participants mainly engaged with online video-sharing platforms such as YouTube and music-related smartphone applications, which were considered valuable mediums for enhancing their musical experiences. Notably, YouTube was considered one of the most preferred platforms for music learning, providing easy access to music sources and exemplary videos that facilitated self-directed learning. Furthermore, participants recognised that their accumulated competency and attitudes towards technology use played a crucial role in adopting digital music technology.

7.2.3 RQ3: Personal and Social Growth through Learning and Playing in Groups

Instead of exploring through the cause-effect approach, this thesis focused on why and how participants experience learning and playing musical instruments. As such, key findings of Chapter 6 offered valuable insight into identifying instrumental music learning and playing as a meaningful form of participation after retirement, particularly within a group context. To perceive ageing from a more optimistic perspective, various terms to represent ageing, including successful ageing, active ageing, and optimistic ageing, have emerged and are thoroughly discussed in the literature review (Section 2.2). Participants in this thesis were motivated to learn and play musical instruments to fulfil their need for meaningful participation after retirement (Section 7.2.1). These needs came from perceiving ageing and retirement as stages brimming with new opportunities despite the physical and psychosocial challenges that may accompany them (Plawecki & Plawecki, 2016; Stenholm et al., 2016; Woo et al., 2022). Participants considered their music groups as facilitators of positive social

interactions among group members, personal development, and critical reflections on their past and present musical experiences.

Previous studies (Bugos et al., 2007; Mansense et al., 2018; Seinfeld et al., 2013) report a positive impact of learning and playing musical instruments on cognitive functions among older adults, including improvements in working memory and processing speed. With the interest of a better understanding of the lived experiences of older adults regarding learning and playing musical instruments from their perspective, this thesis focused on participants' perceptions. Consistently, participants expressed that the ability to play musical instruments fostered a sense of competence, worth and enjoyment. Group learning was a unique aspect that required developing musical skills through collaborative engagement with musical instruments. Competence acquisition within the group setting enhanced interest and motivation to engage with musical instruments. However, the journey of instrumental learning and playing within the group also encompassed reflective episodes on the perceived challenges encountered during skill attainment. Thus, sometimes participants acknowledged difficulties during the learning process, prompting critical reflections on their learning outcomes and musical ability.

Many studies have widely discussed the social aspect of musical participation among older adults (Hallam & Creech, 2016; Helton, 2020; Krause & Davidson, 2021). Consistent with these findings, participants in this thesis also reported experiencing social interactions and group membership within musical participation, recognising their potential to foster positive social outcomes. The perceived social benefits align with previous studies (Joseph & Human, 2020), highlighting how learning and playing musical instruments can facilitate a sense of community, belonging, and purpose. These social aspects were particularly valuable for participants who faced increased free time and lost social connections after retirement (Amorim & França, 2019; Bhattacharyya, 2021).

Regarding participants' experiences with learning and playing musical instruments in groups, the findings suggest that such activities enabled them to strike a balance between their individual needs and learning styles and the collective learning objectives of the group.

Participants described this dynamic as a social and musical phenomenon, emphasising the negotiations and meaning-making within the group learning experience. The interviews allowed participants to express their value of learning in environments where their goals were met, and they felt supported in their engagement. Despite recognising both the challenges and benefits of learning musical instruments after retirement, participants demonstrated a strong desire to continue pursuing group learning and playing as personal fulfilment.

In sum, this thesis explored how older adults in South Korea perceived and engaged in learning and playing musical instruments after retirement in the digital age. The participants who have retired from their full-time work were participating in learning music in their local community centres and playing in ensembles such as amateur orchestras or performance groups to meet a need for meaningful participation after retirement. They considered learning and playing musical instruments after retirement as meaningful participation, allowing them to experience fulfilment, rewards and challenges. Furthermore, the prevalence of smartphone usage among participants was notable. They perceived YouTube and music-related mobile applications as beneficial and perceived them as enriching their musical experiences. Integrating digital music technology played a significant role in their learning and playing musical instruments. The key findings of this thesis shed light on the significance of meaningful participation in musical instruments and the utilisation of digital music technology after retirement, addressing the research questions (RQ1, RQ2, RQ3) of this thesis.

7.3 Meaningful music participation and emerging perspectives

This thesis aims to comprehensively explore how older adults perceive and engage in learning and playing musical instruments in the digital age, drawing on the widely accepted idea that music has a powerful impact on individuals (MacDonald et al., 2012;

Hallam & Himonides, 2022). The key findings presented not only align with the previous literature but also make novel connections between related subjects. In attempting to look at participants' lived experiences through their 'lens', rather than investigating with assumptions or in order to confirm pre-existing theories, this thesis delved into the participants' sense-making processes regarding their musical experience. In summary, Figure 14 highlights the influence of contextual and personal factors, the valuable role of digital music technology in facilitating musical experiences, and the incorporation of personal and social growth through group participation.

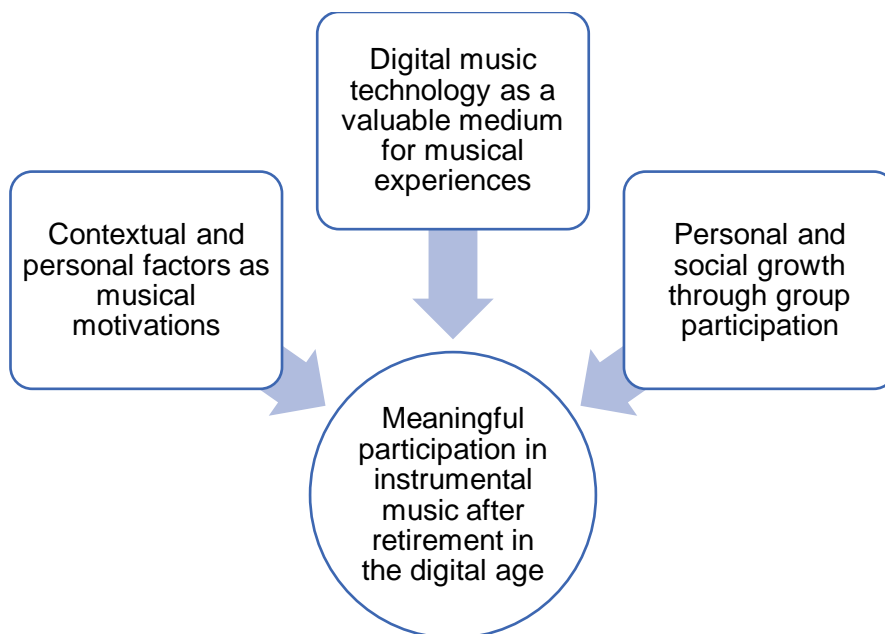


Figure 14: The Summary of Key Findings

As mentioned in Chapter 1, this thesis was inspired by new visions of ageing due to the accelerated growth of older populations (Section 1.2.1), recent increased academic attention to lifelong music participation (Section 1.2.2) and the widespread use of digital technologies among older adults (Section 1.2.3). By empirically building upon these foundations, this thesis contributes to thus far the under-researched area of instrumental music participation among older adults within the contexts of a revised vision for ageing (Sections 2.2 and 2.3) and the technological advances of digitisation (Section 2.4). The findings of this thesis hold practical implications for music practitioners, researchers and the

broader understanding of instrumental music learning and playing during the later stages of life in the digital age. The section below explores the contributions and implications of this thesis regarding meaningful participation in instrumental music among older adults and their perceived value of digital music technology.

First, this thesis provides a detailed account of the motivations behind instrumental music learning and playing after retirement, emphasising the role of contextual and personal factors that shape community music practices. This further adds to the empirical evidence with respect to participants' needs for meaningful participation after retirement. Drawing from participants' in-depth reflections through the interviews, two prominent themes emerged: 'coping with changes' and 'Developing musical aspirations'. These were prompted by the need for meaningful musical participation in learning and playing musical instruments after retirement. By analysing how participants' life transition intersects with musical motivation, this thesis has implications about the need for emotional and social support in later life (see sections 4.2.2 and 4.2.3).

Moreover, this thesis contributes to understanding the influence of music education during school years on individuals' re-engagement with music in later life (see Section 4.3.2). The findings accord with previous studies, which highlight the positive effects of participation in private lessons and school music education on continued music learning in adulthood and later life, particularly in comparison to those with comparatively less extensive musical background (Flower & Murphy, 2001). However, this thesis further elaborates on the intricate connections between personal and contextual factors such as psychosocial support, positive early musical experiences, and lifelong interests, all contributing to older adults' motivations for instrumental music learning and playing. While there have been studies on children's and adolescents' motivation to learn a musical instrument employing qualitative and quantitative data (Oliveira et al., 2020), there has yet to be much research on motivation within instrumental music learning among older adults. Therefore, the findings on motivation for instrumental music learning and playing after retirement enrich the existing music literature about older adults and have the potential to inspire further interdisciplinary research ideas.

Second, the findings contribute to the music technology literature by better understanding how older adults use and perceive digital music technology in their music practices. Given the relatively limited literature concerning the use of technology in the context of musical participation among older adults (see Section 2.4.2), this thesis provides a solid case for the intersection of instrumental music practice and technology use in later life. However, it goes much further in that it also illuminated the use of YouTube among older adults.

With the increasing interest in the role of digital platforms such as YouTube, previous studies have investigated its use within the context of school music education and everyday life for the general population or adolescents, or young adults (Fraser et al., 2021; Serdaroglu, 2020; Marone & Rodriguez, 2019; Garner, 2017; Waldron, 2013; DeWitt et al., 2013; Kruse & Veblen, 2012; Cayari, 2011). However, in line with the evolution and development of media practices, this thesis highlights its potential as a self-directed medium for learning and practising musical instruments among older participants.

Since participants often identified themselves as 'frequent users', the perceived usefulness of YouTube in music learning and practice (Section 5.2.3) and the instant accessibility to music resources (Section 5.2.2) demonstrated the coordinating role of digital music technologies in learning musical instruments. Also, the ownership of a smartphone and the social context in which YouTube has become one of the most popular video-sharing platforms has expanded its use for instrumental music learning and practice (Section 5.3.2). Moreover, participants' description of the perceived usefulness of YouTube for their music practice has commonalities with some of the technology adoption models (TAM and UTAUT) (Section 2.4.3.1) that perceived usefulness and ease of access as well as social context co-influence individuals' perceptions and decisions around the adoption and use of technology. By addressing these aspects, the findings significantly enhance the existing literature and provide valuable insights into the role of digital music technology in the musical experiences of older adults.

Third, from the perspective of digital music technology, this thesis contributes to illuminating the importance of digital literacy when adopting digital music technology. The reasons for adopting digital music technologies among participants relate to having competence in using digital technologies due to early positive experiences (Section 5.4.2). This digital literacy allowed them to incorporate digital music technologies into their music practices. However, it is noted that some participants identified fewer benefits of digital music technology for their learning and practice, feeling less need to adapt to these technologies. Therefore, the findings suggest that older adults use appropriate technology when their needs are met. Given that, instead of imposing technology adoption on older adults, it is crucial to provide intellectual guidance on how technology can be effectively integrated into their everyday lives and music practices. In sum, this thesis illuminates the complexities and importance of digital literacy and points to the value of digital music technologies that can enrich music learning.

Fourth, from the perspective of active music-making and older adults' well-being, this thesis contributes to a better understanding of how this group experience instrumental music learning and playing and how they make sense of these experiences in their particular ways. Prior studies on music and ageing have explored the positive impact of music on older adults, suggesting its potential as a beneficial means of active music participation. In response to the call for a subtler understanding of the subjective meanings of these experiences, the findings on the lived experience of older adults learning and playing a musical instrument after retirement offer a nuanced picture of community music participation and individual music practice. Therefore, this thesis delved into their complex perceptions and experiences of learning musical instruments, starting from their initial motivations (Chapter 4) and extending to their involvement in group participation (Chapter 6).

Notably, this thesis elaborates on how participants perceive their experience in instrumental music learning and playing. For example, group music learning provides opportunities for social interactions (Section 6.2.2) and group membership (Section 6.2.3), allowing participants to embrace the social benefits of active music participation. Also, by

uncovering the personal impacts of music learning, such as the development of musical competence (Section 6.3.2), a sense of worth through acts of benevolence (Section 6.3.3) and the experience of enjoyment and appreciation (Section 6.3.4), a nuanced view towards the social and psychological benefits of learning and playing musical instruments is presented. Furthermore, participants' reflections on instrumental music learning, including their perception of the facilitators' role (Section 6.4.2) and their engagement with self-criticism within the context of group music learning (Section 6.4.3), are highlighted. In other words, the findings contribute to the existing literature on active music-making and ageing by detailing the importance of social and psychological aspects for older adults while also addressing the challenges and dynamics of group learning contexts.

Fifth, this thesis utilised a novel research methodological approach to investigate the lived experience of older adults learning and playing musical instruments in the digital age. As discussed in Section 3.2, Interpretative Phenomenological Analysis (IPA) is a commonly used qualitative methodology across various research fields. However, its application in music education and psychology research is relatively new. By utilising IPA's essential features, such as the double hermeneutic for facilitating in-depth interpretation based on a robust theoretical foundation (Section 3.2.1), as well as an iterative analytic process strategy (Section 3.4), this thesis enriches qualitative research methods based on a phenomenological foundation within the context of music and ageing research. This expands the methodological repertoire available for conducting qualitative studies in this area. The use of IPA in this research provides a unique lens through which to explore the subjective experiences of older adults about learning and playing musical instruments, particularly in the digital age. It offers valuable insights into the lived realities of older adults and a deeper understanding of their perspectives, highlighting the potential for continued advancement in qualitative research methods in music and ageing research.

Lastly, this thesis provides practical implications for music practitioners and policymakers. The findings contest the negative stereotypes of old age and open up positive ways of considering digital music technology use, especially digital platforms like YouTube.

Given the social and psychological benefits of learning and playing musical instruments, practitioners might promote the participation and support of the engagement of older people in community music learning and the use of digital music technology. Echoing Sixsmith et al.'s study (2022) on the older adults' use of digital technology during the COVID-19 pandemic, which highlights increased usage and optimistic attitudes towards technology for supporting health, wellness, and communication needs, the potential of digital technology for supporting older adults' various aspects of music learning is promising. While the opportunities afforded by technology and the challenges remain, such as how social and economic factors influence technology uptake (see Sections 5.3.2 and 5.3.3), practitioners (e.g., staff at U3As, community music instructors and facilitators at community centres) should not merely focus on the traditional approach of group instructions but also think about using digital music technologies to apply for older learners' learning.

For example, it is recommended that practitioners should not assume that older adults are not interested in learning about emerging technologies and do not have the capability to adopt them for their music participation. Extending our findings with respect to self-directed music learning through digital platforms, practitioners should actively inform themselves with regard to the benefits and accessibility of digital technology for their musical participation, highlighting the milestones in the context of activities. Moreover, it is necessary to embed support and help existing practices. For instance, practitioners should consider the quality of learning content on social platforms and provide necessary guides for facilitating relevant learning approaches. In sum, this thesis provides a strong case for the potential of digital music technology to enrich instrumental music practises and learning.

The in-depth analysis of South Korean older adults' experiences of learning and playing musical instruments after retirement reveals that these musical experiences enrich their lives. The thesis has demonstrated the significance of lifelong engagement in active music-making as a means to promote well-being during the post-retirement phase. While the findings significantly contribute to the existing knowledge of music learning for older adults, it is important to acknowledge that this thesis represents only the initial steps in this field of

study. Much more remains to be explored and understood. Nonetheless, it is gratifying to confirm that music holds a special place in the lives of the participants in this thesis and that active learning and playing of musical instruments contribute to a meaningful and fulfilling life.

7.4 Limitations and Suggestions for Future Research

There are limitations to this thesis. First, as this thesis adopts the Interpretative Phenomenological Analysis (IPA) approach to explore the participants' experiences regarding musical participation with digital music technology use, it involved a small number of participants (ten participants) due to its in-depth and intensive nature. While this allowed for a detailed analysis of individual experiences, it limits the generalisability of findings to a larger population. As such, this thesis does not assert a causal relationship between musical participation with digital music technology use and psychological well-being nor generalises its findings to older individuals outside South Korea. Instead, the research provides a snapshot of the participants' experiences through Interpretative Phenomenological Analysis, a qualitative methodology that aims to capture the participants' subjective experiences.

Given the exploratory nature of the research, future longitudinal work that involves repeated interviews of participants over a sustained period might be necessary to investigate the potential long-term impacts of music experiences from a life course perspective. Such a study would provide a more comprehensive understanding of the relationship between musical participation with technology use and psychological well-being over time, providing a complete picture of the participants' experiences. By doing so, the thesis can help identify how musical participation affects older adults' well-being and inform the development of interventions that promote healthy ageing and well-being.

Second, participants in this thesis were older adults who have retired from their full-time work and have musical experiences to some extent, which means they were only

partially novices at their musical instruments at the time of the interview. Therefore, the findings of this thesis cannot be generalised to all older adults who engage from the starting position of being a complete novice later in life. Also, participants were relatively educated and benefited from stable employment, mostly receiving a pension. It is crucial to acknowledge that retirement is a multifaceted and individualised experience shaped by personal and situational factors. Therefore, it is imperative to exercise caution when interpreting the results of this thesis and avoid making sweeping generalisations about the broader population of older adults.

Furthermore, regarding technology use, as mentioned in Chapters 1 and 2, South Korea has one of the highest smartphone penetrations among older adults (Silver, 2019). Therefore, the South Korean participants in this thesis might be even more technology-savvy than participants from other ethnic backgrounds. As such, it is crucial to approach the results of this thesis with pragmatism and avoid overgeneralising them. For instance, it is worth mentioning that some participants in this thesis possessed extensive computer user experience gained through their work. While this may imply a level of technological competence that is perceived to be rare among older adults from different socio-economic backgrounds, it is important to consider the heterogeneity of the older adult population in terms of technology use. Future research could consider including participants with varied socio-economic backgrounds and technology experiences to obtain a more comprehensive understanding of technology use among older adults. In doing so, researchers can better understand how to design technology accessible to all individuals, regardless of their technological background.

Third, since the participants in this thesis are retirees, the concept of "retirement" plays a vital role in this thesis. However, it is essential to acknowledge that retirement is evolving rapidly and becoming an elusive phase of adult life due to the declining value of pension funds and the continuation of work in later life (Henkens & Solinge, 2021). This evolving landscape might raise questions about the relevance and applicability of the retirement concept in today's diverse and dynamic social and demographic contexts.

Therefore, it is imperative to recognise that retirement is not a universal, uniformly significant concept across all countries. This thesis, by focusing on retirement, seeks to shed light on the experiences of those who do experience it by exploring the impact of this life transition on their learning and playing musical instruments. As such, this thesis adds depth to our understanding of retirement as one of the pivotal life stages and its implications for musical engagement. It also acknowledges the diverse perspectives on retirement in modern society.

Fourth, due to the COVID-19 pandemic, which started at the beginning of 2020, the data collection methods were limited, and one-to-one interviews were all feasible when this research was conducted. However, it is important to acknowledge that other data collection forms may offer different insights into people's experiences of learning and playing musical instruments using technologies. Also, as IPA involves the interpretation of participants' experiences, it is subject to the biases and subjectivity of the researcher (Nizza et al., 2021; Smith et al., 2021). For that, different researchers may analyse the same data differently, leading to potential variations in the findings. Therefore, future research could employ various data collection methods to gain a more comprehensive understanding of this phenomenon. For example, focus groups could be utilised to gather data from a larger group of participants simultaneously, which may allow for exploring different perspectives and experiences. Additionally, researchers could conduct observations of participants in music group programmes, enabling them to gain insights into how older adults engage with technology while playing musical instruments in a group setting. Researchers can enrich their findings by utilising different data collection methods and obtain a more nuanced understanding of older adults' experiences using technology to learn and play musical instruments.

In sum, this thesis has shed light on the experiences of older adults regarding musical participation with digital music technology use. However, it is essential to acknowledge the limitations outlined above. The small number of participants who participated in the interviews, specific participant characteristics, regional context of

technology use, and restricted data collection methods due to the COVID-19 pandemic all contribute to the need for further research to address these limitations. Future studies employing more participants, longitudinal designs, and diverse participant backgrounds can provide a more comprehensive understanding of the relationship between musical participation with technology use and psychological well-being among older adults. By considering the broader population and employing varied data collection methods, researchers can obtain a more nuanced understanding of technology use and design interventions that cater to the diverse needs of older adults, ultimately promoting healthy ageing and well-being.

7.5 CODA

For many years, music has been recognised as a fundamental aspect of human existence, offering individuals one of the most pleasurable and fulfilling experiences in their daily lives. 'Playing a musical instrument is one of the most complex skills a human can achieve' says Rosenkranz et al. (2007, p.5200), and a plethora of studies have argued that playing a musical instrument allows individuals to express their creativity, emotions, and connect with others.

Motivated by investigating instrumental music participation in later life, this thesis aimed to explore the lived experiences of South Korean older adults' active music-making in the digital age, specifically in the context of instrumental learning and playing after retirement. Utilising the Interpretative Phenomenological Analysis (IPA) approach, it investigated the personal and contextual factors that were reported to motivate older adults to engage in active music-making after retirement. Furthermore, it examined the role of digital music technologies as a means to facilitate their learning and playing musical instruments and the perceived meaningfulness of community music participation that enhanced their personal development and social connections. The findings of this thesis

provide valuable insights into the musical experiences of older adults after their retirement in the digital age, which can inform the design of interventions that effectively promote their well-being.

This body of work contributes to our understanding by offering critical insights into the lived experiences of instrumental music learning and playing, which support older adults' meaningful participation after retirement and digital music technologies use, which can enrich and sustain their engagement with music. This meaningful participation in music contributes to the various dimensions of later life by providing personal development, a sense of belonging, social connectedness, and purposeful engagement. Therefore, policymakers and healthcare professionals should recognise the benefits of instrumental music learning and encourage older adults to participate in active music-making, both in-person and digital.

Last but not least, as a music educator, musician, researcher, and author of this thesis, I sincerely hope for ongoing research on active music-making in older adulthood, particularly in conjunction with the rapid development of digital technologies. Indeed, and as set within this thesis, active music-making is undeniably an essential and highly beneficial aspect of later life that deserves continued research attention.

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Appendix A

Pre-interview questionnaire

Q1. What is your age?

65-69

70-74

75-79

80+

Q2. What is your gender?

Female

Male

Q3. What year did you retire from your full-time work? _____

Q4. What was your former occupation? _____

Q5. What is your main musical instrument(s)? _____

Q6. Please specify all the types of participation that you are participating in (or have been participating in) currently.

Group Lesson

Ensemble or Orchestra

Private Lesson

Others: _____

Q7. How many years have you participated in learning and playing the instrument?

Less than 1 year

1-2 years

3-5 years

5 years more

_____ ---END---

사전 인터뷰 설문지

Q1. 귀하의 나이는 어느 구간입니까?

- 65-69
- 70-74
- 75-79
- 80+

Q2. 귀하의 성별은 무엇입니까?

- 여성
- 남성

Q3. 어느 년도에 은퇴하셨습니다? _____

Q4. 은퇴 전 어떤 직업을 가지고 계셨습니까? _____

Q5. 귀하가 연주하는 악기는 무엇입니까? _____

Q6. 귀하가 참여하고 있는 악기관련 활동은 무엇입니까? (중복가능)

- 그룹 레슨
- 앙상블 또는 오케스트라
- 개인 레슨
- 기타: _____

Q7. 위 악기관련 활동의 기간은 어떻게 됩니까?

- 1년 미만
- 1-2년
- 3-5년
- 5년 이상

_____ ---끝---

Appendix B

Interview schedule

Remind about the ethics, including the information sheet
Q1: Tell me about your musical interests? <i>Do you play a musical instrument or sing?</i> <i>What music do you listen to?</i> <i>Have you had any formal or informal music learning experience?</i>
<input type="checkbox"/> <u>Music in everyday life</u> Q2: How long have you been playing or singing? Q3: Why do you do it? Q4: Tell me about the musical activity Q5: How do you feel during participating in that musical activity? Q6: What do you enjoy? And any challenges? Q7: What do you think are the main impacts of participating in that musical activity? Positives and challenges? Q8: How has the musical activity impacted on your current life or after retirement? Q9: What would you tell others who are interests in participating in musical activities after retirement?
<input type="checkbox"/> <u>Engagement in digital technology:</u> Q10: Could you describe your experience of using digital technologies in general? - <i>Can you name the tools which became important to you?</i> - <i>Do you find those tools authentic and motivating?</i>
<input type="checkbox"/> <u>Engagement in music with digital technology:)</u> Q11: Could you describe your experience of using ‘digital technologies when engaging in your musical activities? Q12: Which features, if any, were harder to access and/or use? Q13: In what ways YouTube or any other digital technologies have helped you to enhance your musical experience? Q14: Do you have suggestions for other people to use digital technologies for music?
Do you have any other comments about your experience of music? Do you have any questions for me?
Thank you again and remind about ethics


Interview guide (KR)

Introduction
Thanks and remind about the ethics including the information sheet 기본정보: 나이-직업- 은퇴 년도-종교- 주로 다루는 악기 -
Main body
<p><input type="checkbox"/> Music in everyday life: (일상생활에서의 음악)</p> <p>현재 참여하시는 음악활동에 대해서 이야기 해주십시오. 참여하시는 동기에 대해서 이야기 해주십시오. 그 음악 활동에 참여하는 동안 기분이 어떠세요? 현재 내 삶에 어떻게 영향을 미친다고 생각하십니까? 긍정적인점 또는 어려운점이 있다면? 과거 음악을 배웠거나 했던 경험들을 이야기 해주십시오. 은퇴 후 음악 활동에 관심이 있는 다른 사람들에게 어떤 얘기를 해줄수 있을까요?</p>
<p><input type="checkbox"/> Engagement in digital technology: (디지털 기술의 활용)</p> <p>평소 어떠한 디지털 기술들을 가장 많이 사용하는지? 중요하다 생각하는지? 최신 기술들을 배우고 따라가는 것에 대해 어떻게 생각하는지?</p>
<p><input type="checkbox"/> Engagement in music with digital technology: (음악활동에서의 도구나 기계 사용)</p> <p>음악 활동을 할 때 디지털 기술을 사용했던 경험에 대해 설명해 주시겠습니까? - 어떠한 부분이 어렵거나 활용하기 유용하다 생각되는지? 다른 디지털 기술이 어떻게 음악적 경험을 향상시키는데 도움을 주었는가? 어떻게 사용하시는지 보여주실수 있을까요?</p>
Close
Do you have any other comments about your experience of music? Do you have any questions for me? Thank you again and remind about ethics

Appendix C

Examples of pictures used for artefact elicitation during the interviews

Pictures used	Description
	CD player
	Radio
	LP player
	Upright Piano
	Acoustic guitar
	String instruments

	<p>Brass and wind instruments</p>
	<p>Tablet PCs</p>
	<p>Smartphone</p>

Appendix D

Institute of Education



PARTICIPANT INFORMATION SHEET

Taking part in an interview of a study of how older adults perceive and engage in active music-making in the digital age.

Thank you for considering taking part in my research. My name is Jeehye Hwang, a doctoral student from University College London (UCL). I am interested in your musical engagement, creativity with technology and your wellbeing. Before you decide if you want to take part or not, I want to tell you why the research is being done, and what you can expect if you do take part. Please read what I have to say carefully. Ask me if you have any other questions.

Thanks for reading this.

Why are we doing this research?

My research will explore the values and impact of your learning and playing musical instruments in the digital age on your everyday life. This study will examine the benefits of active music-making among older adults and the contribution of learning to use digital music technology in daily life.

Why am I being invited to take part?

You have been contacted because I want to interview older people who have taken part in arts activities. I will be interviewing a range of people who have had such experiences.

What will happen if I choose to take part?

If you agree to take part, I will arrange an interview to take place at a [name of community centre]. This will take place at convenient time that suits you. I will try to answer any questions you may have about the interview.

Before the interview, I will ask you if you are willing to have the interview audio tape recorded. You will be given the 'consent form'. You only sign this form if you agree to take part in the interview and you will be given a copy of this information sheet to keep.

The interview will be like a conversation, in which I will help you talk about yourself in your own words. I will ask you to talk about how you include music in your life. I will also ask you about your music education experience(s), the contribution that music make your life and your general life satisfaction.

Interviews are expected to last between 30 and 60 minutes depending on how much you have to say. If you want to stop the interview at any time, you can do so without giving any reason at all. If you want, you can stop or reschedule the interview.

Will anyone know I have been involved?

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I will follow ethical practice and all information which is collected about you during the course of this research will be kept strictly confidential unless something you say suggests you or someone else is at a risk of harm. In this case, I will pass the matter to the centre manager to be dealt with under their safeguarding policy. The recorded conversation will be transcribed by me and all information will be coded and anonymized. Once the transcript has been completed, the audio recording will be erased. Moreover, the data I collect will be used only for the purpose of this research.

Could there be problems for me if I take part?

It is extremely unlikely you will experience any problems as a result of taking part. You should answer the questions based on your personal experience during the interview. However, if you rather answer any questions, we will move on.

What will happen to the results of the research?

Part of the data from this research will be used for my PhD study. The findings of the study will be included in the published written dissertation, academic papers and presentations at conferences, professional journals or magazines. You will not be identified in any report, publications or presentation. Direct quotes from the interviews may be used in reports and publications; however, the quotes will be anonymized to ensure that you cannot be identified.

Do I have to take part?

It is entirely up to you to decide whether you take part or not. You are welcomed to talk about this study with friends and family before consenting to take part. If you participate, you will be perfectly entitled to miss out any questions and indeed, you will be able to withdraw from this process at any point without it affecting your relationship with me or any other one from [name of community centre].

Addendum regarding COVID-19 Risks

I will put in place safety precautions to reduce exposure to COVID-19 during interviews, but the risk of exposure can still exist. You are under no obligation to participate. You can stop participating or withdraw from this research at any time if you feel concerned. If you are concerned about taking part in this research due to COVID-19, to reduce the possibility of COVID-19, I have implemented the following safety procedures while conducting interviews.

- Using hand sanitizer before and after interviews
- Wearing of face masks
- Limiting shared materials and documents
- Sanitizing surfaces and shared objects

Data Protection Privacy Notice

The data controller for this project will be University College London (UCL). The UCL Data Protection Office provides oversight of UCL activities involving the processing of personal data, and can be contacted at data-protection@ucl.ac.uk. UCL's Data Protection Officer can also be contacted at data-protection@ucl.ac.uk. Further information on how UCL uses participant information can be found here: <https://www.ucl.ac.uk/legal-services/privacy/ucl-general-research-participant-privacy-notice>

The legal basis that would be used to process your *personal data* will be performance of a task in the public interest.

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Your personal data will be processed so long as it is required for the research project.

If we are able to anonymise or pseudonymise the personal data you provide we will undertake this, and will endeavour to minimise the processing of personal data wherever possible. If you are concerned about how your personal data is being processed, or if you would like to contact us about your rights, please contact UCL in the first instance at data-protection@ucl.ac.uk.

Contact for further information

I hope that this information sheet has told you what you need to know before deciding whether or not to take part. If you have any further questions before you decide whether to take part, you can reach me at [REDACTED].

If you would like to be involved, please complete the following consent form/ This project has been reviewed and approved by the UCL IOE Research Ethics Committee.

Thank you very much for taking the time to read this information sheet.



CONSENT FORM

Taking part in an interview of a study of how older adults perceive and engage in active music-making in the digital age.

Yes No

- If you are happy to participate in this study, please complete this consent form and return to Jeehye Hwang in person or at the address below.
- I have read and understood the information leaflet about the research and I agree to follow safety procedures to reduce the possibility of COVID-19.
- I understand that if any of my words are used in reports or presentations they will not be attributed to me.
- I understand that I can withdraw from the project at any time, and that if I choose to do this, any data I have contributed will not be used.
- I understand that I can contact Jeehye Hwang at any time and request for my data to be removed from the project database.
- I understand that the results will be shared with the Economic and Social Research Council and in research publications and/or presentations.
- I agree for the data I provide to be archived at the UK Data Service. I understand that other authenticated researchers will have access to this data only if they agree to preserve the confidentiality of the information as requested in this form.
- I understand that other genuine researchers may use my words in publications, reports, web pages, and other research outputs, only if they agree to preserve the confidentiality of the information as requested in this form.

Name _____ Signed _____ Date _____

Jeehye Hwang
UCL Institute of Education
20 Bedford Way London WC1H 0AL

연구 참여 설명서

본 연구를 진행하는 연구자 **Jeehye Hwang** (황지혜)는 영국 런던대학교, 유니버시티 칼리지 런던 **University College London (UCL)**의 박사과정에 재학 중이며 박사논문을 위해 연구 일부인 인터뷰를 진행하고자 합니다. 본 연구 주제는 디지털시대에 노년층들이 악기를 배우고 연주하는 음악적 경험을 어떻게 인식하고 참여시키는지에 대한 연구입니다. 다음은 귀하께 본 연구의 일부인 연구자와의 인터뷰에 참여하기 전 본 연구가 진행되는 이유와 참여할 경우 예상될 수 있는 사항을 알려드리고자 합니다. 아래의 설명을 천천히 읽어보신 후 의문사항이 있으시면 위 연구자에게 알려주시기 바랍니다. 감사합니다.

연구 배경

본 연구는 귀하의 일상생활에서 악기를 연주하고 배우는 것이 어떠한 역할을 하는가와 귀하의 음악적 경험에서 활용되는 디지털 테크놀로지에 대한 가치와 영향을 탐구합니다. 본 연구는 노년층의 일상생활에서 음악적 경험의 이점과 동기 더 나아가 디지털 테크놀로지를 사용한 음악적 경험을 참여자의 관점에서 살펴보는 것을 목적으로 합니다.

연구 방법

인터뷰 시작 전, 연구 동의서에 서명을 하실 것이며 인터뷰 전 과정이 녹음되는 것도 동의하시는 지에 대해 물어볼 것입니다. 서명된 연구 동의서는 연구자와 귀하께서 각 한부씩 갖게 될 것입니다.

인터뷰는 연구자와 귀하 간의 대화와 같이 진행될 것이며 대체로 연구자는 질문하며 귀하가 이야기를 하도록 도울 것입니다. 연구자는 대략적으로 귀하의 삶에 음악이 어떠한 역할을 하는지에 대해 질문할 것이며 정도에 따라 50분에서 60분정도 진행 될 것으로 예상됩니다. 언제라도 인터뷰를 중단하고 싶을 때는 중지하거나 일정을 조정하실 수 있습니다.

연구 윤리 및 개인정보에 대한 비밀보장

연구자는 연구윤리규정을 따를 것이며, 귀하에 대해 수집 된 모든 정보는 귀하 또는 다른 사람에게 해를 입힐 위험이 있지 않는 한 엄격히 비밀로 유지됩니다. 만약 보호 정책에 따라 처리 할 문제가 발생시 해당 담당자에게 전달될 것입니다. 녹음 된 대화내용은 연구자가 텍스트로 바꾸어 코드화되며 익명으로 처리될 것입니다. 대화 내용이 텍스트로 변경되면 오디오 녹음 파일은 삭제될 것입니다. 또한 수집 된 데이터는 이 연구의 목적으로만 사용됩니다.

연구의 참여에 따른 피해

본 연구의 참여로 귀하에게 예상되는 피해는 없습니다. 귀하의 개인적인 경험을 바탕으로 연구자의 질문에 대답하면 됩니다. 그러므로 귀하가 연구자의 질문에 대답하기를 원하면 계속 진행할 것입니다.

연구 결과 데이터 활용

이 연구의 데이터 중 일부는 연구자의 박사 학위 연구에 사용됩니다. 연구 결과는 연구자 논문 포함, 보고서, 학술지, 출판물 및 컨퍼런스 발표에 사용될 수 있습니다. 하지만 귀하는 어떠한 형태로든 식별되지 않을 것입니다. 또한 인터뷰 내용은 직접적으로 인용될 수 있으나 익명으로 처리되어 식별할 수 없습니다.

자발적 참여 및 참여 거부와 철회의 자유

본 연구에 대한 참여는 전적으로 귀하의 의사에 따라 결정하시면 됩니다. 참여에 동의하기 전에 본 연구에 대해 친구 및 가족과 상의하실 수 있습니다. 인터뷰 중, 귀하는 연구자의 질문에 대답을 원치 않을 경우 중지를 요청할 수 있으며 이러한 부분이 귀하와 연구자 외 다른 사람과의 관계에 영향을 미치지 않을 것입니다. 그러므로 언제든지 연구 참여를 철회할 수 있습니다.

COVID-19 위험에 관한 부록

인터뷰 중 코로-19 노출을 줄이기 위해 안전 예방 조치를 취하겠지만, 노출 위험은 여전히 존재할 수 있습니다. 당신은 참여할 의무가 없습니다. 코로-19로 인해 이 연구에 참여하는 것이 걱정된다면 언제든지 참여를 중단하거나 이 연구에서 탈퇴할 수 있습니다. 저는 코로나-19 가능성을 줄이기 위해 인터뷰를 진행하면서 다음과 같은 안전 절차를 시행했습니다.

- 인터뷰 전후 손 세정제 사용
- 안면 마스크 착용
- 공유 자료 및 문서 제한
- 표면 및 공유 개체 검사

데이터 보호 개인정보 공지

본 연구의 데이터 관리자는 영국 런던대학교, 유니버시티 칼리지 런던 (University College London, UCL)입니다. UCL의 Data Protection Office는 개인 데이터 처리와 관련된 활동을 감독하며 귀하는 data-protection@ucl.ac.uk에 문의하실 수 있습니다. UC이 연구 참가자 정보를 사용하는 방법에 대한 추가 정보는 여기에서 찾을 수 있습니다. <https://www.ucl.ac.uk/legal-services/privacy/ucl-general-research-participant-privacy-notice>

귀하의 개인 데이터를 처리하는 데 사용될 법적 근거는 공익 업무의 수행입니다.

귀하의 개인 데이터는 본 연구에 필요하므로 처리될 것입니다.

귀하가 제공한 개인 정보가 익명화되거나 가명으로 표현될 경우, 연구자들은 개인 정보 처리를 가능한 최소화하기 위해 노력할 것입니다. 귀하의 개인 데이터 처리 방법에 대해 우려가 있거나 귀하의 권리에 관해 문의할 사항이 있으면 data-protection@ucl.ac.uk로 연락하실 수 있습니다..

문의사항이 필요할 경우

이 참여설명서가 연구 참여 여부를 결정하기 전에 알아야 할 사항을 알려줬길 바랍니다. 참여 여부를 결정하기 전에 추가 질문이 있으면 [REDACTED]로 연락하실 수 있습니다. 본 연구에 참여하시려면 다음 동의 양식을 작성하십시오. 본 연구는 UCL, IOE 연구윤리위원회에 의해 검토되고 승인되었습니다.

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참여 설명서를 읽어 주셔서 감사합니다.

연구 참여 동의서

네 / 아니오

- 만약 연구에 참여를 원하시면, 동의서를 작성하신 후 본 연구의 연구자인 Jeehye Hwang (황지혜)에게 돌려주시기 바랍니다.
- 본인은 연구에 대한 정보를 읽고 이해했으며 코로나-19의 가능성을 줄이기 위한 안전 절차를 따르는 것에 동의합니다.
- 본인은 본 연구에 대한 정보가 들어있는 연구 설명서를 제공받았으며, 그 내용을 읽고 충분히 이해하였습니다.
- 본 연구를 위해 표현되거나 사용되는 단어가 나에게 귀속되지 않는다는 것을 이해하였습니다.
- 본인은 언제든지 본 연구 참여를 중단 할 수 있으며, 중단을 원할 시, 내가 제공 한 데이터는 사용되지 않는다는 것을 이해하였습니다.
- 본인은 본 연구자에게 연락하여 연구 데이터베이스에서 본인 관련 데이터를 제거하도록 언제든지 요청할 수 있음을 이해하였습니다.
- 본인은 연구 결과가 경제 사회 연구위원회와 연구 간행물 및 발표에 공유 될 수 있음을 이해하였습니다.
- 본인이 제공한 데이터가 영국 데이터 서비스에 보관되는 것에 동의합니다. 본인은 다른 인증 된 연구원이 이 양식에서 요청한 정보의 절대 비밀을 유지하기로 동의 한 경우에만 이 데이터에 접근 할 수 있음을 이해하였습니다.
- 본인은 다른 인증된 연구원이 이 양식에서 요청한 정보의 절대 비밀을 유지하기로 동의 한 경우에만 출판물, 보고서, 웹 페이지 및 기타 연구에 나의 단어들을 사용할 수 있음을 이해하였습니다.

참여자: _____ 서명: _____ 날짜: _____

Jeehye Hwang (황지혜)
UCL, Institute of Education

Appendix E

The following is the risk assessment submitted and carried out for starting or resuming fieldwork in the context of the COVID-19 pandemic as a part of the ethical process from the UCL Institute of Education.

UCL Institute of Education Risk Assessment

Starting or Resuming Fieldwork in the contexts of COVID-19

Section 3: Risk Assessment

- a. Please read the **Appendix on COVID-19 risks and hazards** (pg. 3 onwards), and enter details of the potential risks arising from the work planned for this project below.

For example, 'members of research team will have to use public transport to travel to the school where fieldwork will take place'

The researcher will use own private vehicle to travel to places where interviews will take place. Most of interviews will be conducted at local sites such as meeting rooms in community centres and cafes in South Korea.

- b. Please confirm the steps you will take to mitigate the above COVID-19 related hazards and risks. See the Appendix for some examples of control measures. Please reference specific control measures or sections of the Appendix, where possible.

For example, (in reference to the above) 'members of research team will be asked to plan their journeys ahead to avoid busy times. They will be asked to wear a face covering while travelling, as well as trying to socially distance as much as possible. They will be encouraged to wash their hands or use hand sanitiser once their journey is complete'

I will be aware of the surfaces I touch and wash or sanitise my hands before and after a journey. I and research participants will wear a face covering while conducting interviews. The places where I will be meeting with research participants will be near research participants' residences so that they will not need to use any public transportation. I will follow South Korea's government guidance and recommendations for meeting with research participants individually. I and research participants will be using appropriate PPE for the places where I meet with research participants, including hand sanitisers and gloves (and possibly face coverings/masks) as indicated by South Korea's government guidance.

Section 4: Declaration

Researcher's signature/name: Jeehye Hwang

Date: 06.Jan.2021

Appendix: COVID-19 risks and hazards

Safety Information on hazards, risks and control measures which may apply:

(Source: UCL RiskNET)

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus, SARS-CoV-2. The virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes. Droplets fall on people in the vicinity and can be directly inhaled or picked up on the hands and transferred when someone touches their face.

Starting or resuming fieldwork risks

Research staff who travel to fieldwork or other outdoor working (UK only) at this time must follow the risk control measures as outlined below. There are 5 priority controls stated by UCL for all to follow:

- (1) If you or a member of your team are classed as vulnerable or extremely vulnerable (at increased risk of severe illness) in relation to COVID-19 – please follow UCL guidance about travel in this context and discuss with your **line manager**.
- (2) Keep in mind the symptoms of COVID-19 and adhere to government guidelines on self-isolation as appropriate. Do not attend work or undertake research if you think you may be unwell or if someone in your household is unwell. Symptoms include a new, continuous cough, high temperature and/or loss of taste or smell.
- (3) Strictly follow government guidelines on social distancing, hand washing and respiratory hygiene.
- (4) Reduce the number of people carrying out fieldwork and face to face data collection.
- (5) Researchers must keep in contact with their teams or supervisor, if relevant, and constantly review any work being conducted. Task specific protocols and risk assessments must be kept up to date, in response to new hazards or changes in risk level. Please email joe.researchethics@ucl.ac.uk if you need to update us, or would like to discuss anything.

Hazard: Infection transmission travelling to & from fieldwork

Risk: Participants or researchers may contract COVID-19 as a result of contact with infected individuals or contaminated surfaces

Control measures:

Primary controls

- Stay at home – continuation of remote working is encouraged, where possible
- Quarantine – those with symptoms must not travel to, or attend, the workplace. Anyone who develops symptoms of COVID-19 must be sent home and stay at

home for at least 7 days from the onset of symptoms. You can stop self-isolating after 7 days if your symptoms have gone, or if you just have a cough or changes to your sense of smell or taste - these symptoms can last for weeks after the infection has gone. Keep self-isolating if your COVID-19 symptoms persist after 7 days. If someone lives in a household where someone else is unwell with symptoms of COVID-19, then they must also stay at home in line with the NHS guidance.

- Researchers are encouraged to walk, cycle or use cars/taxis to travel to and from fieldworks. Avoid using public transport wherever possible.
- Researchers are encouraged to avoid overnight stays and complete all fieldwork in one day trip where possible.
- Where overnight stay is required such arrangements must meet social distancing guidelines.
- If researchers need to use public transport, consideration must be given to avoidance of peak times and known busy periods wherever possible. An individual researcher may still chose a busier period because of individual circumstances, but the impact of this should be discussed.

When travelling (walking/cycling/public transport):

- Only use public transport if you have to. If you must use public transport, take the following additional precautions:
 - Check with your provider for the latest travel advice before you leave.
 - Plan ahead and use a direct route.
 - Travel at 'off peak' times, which means avoid travel between 05:45 to 08:15 and 16:00 to 17:30, Monday to Friday.
 - Take hand sanitiser and a face covering. Wearing of face covering is mandatory on public transport.
 - Wash or sanitise your hands before beginning your journey - and when you arrive.
 - Try to maintain social distancing, for example when approaching or passing other people, waiting on platforms or at stops.
 - If you can't stay away from people (e.g. when boarding or alighting, on busier services, at busier times of day) try to face away from other people, and keep the time you spend near others as short as possible.
 - Use a face covering when you will be close to others.
 - In all cases, wherever possible, maintain a 2 metre (6'6") distance between people. If it is impossible to remain 2 metres apart in circulation spaces, face away from other people whilst passing them.
 - The current Government (national and local) and Regulatory bodies' guidance/recommendations for working must be followed. This is rapidly evolving and is found in different places.
 - If your research takes place in a setting or settings (such as a school) then you should also follow guidance/recommendations that have been implemented in that setting
 - Consideration needs to be given on how equipment and PPE will be cleaned or disposed of safely

- Increase ventilation by opening windows where possible
- If relevant, the control measures and new ways of working must be communicated to all project staff before fieldwork or data collection begins.

PPE & Hygiene

- Researchers and participants should be using appropriate PPE for the setting, including hand sanitisers and gloves (and possibly face coverings/masks) as indicated by government guidance. PPE must not be shared.
- Having strong measures in place to promote good hygiene is paramount. It is widely accepted that all researchers should wash their hands with soap and water for 20 seconds or more and more frequently than normal. As many public toilets may be closed, consideration needs to be given to this aspect. Hand sanitiser should be used where hand washing is not convenient.
- Allow frequent breaks to attend to hygiene requirements.
- Areas or process steps where people directly pass items to each other must be identified and risks of transmission mitigated. Prevent direct contact between people, using a 'put-down-pick-up' process for example.
- Wash your hands before and after using shared tools, objects, materials, equipment and other items. If a hand wash sink is not available, use hand sanitiser.

UCL Insurance

- UCL has a Business Travel Insurance policy that will insure UCL employees, students, and persons assisting UCL with its business who are normally resident in the UK. When travelling on UCL business you'll need to register your trip. Please refer to Travel on UCL Business webpage for further information: <https://www.ucl.ac.uk/finance/expenses-insurance/travel-ucl-business>
- UCL personnel are covered, subject to financial limits, for Personal Accident, Medical Expenses (this includes COVID), Personal property, Money, Kidnap and Ransom, Personal Liability/Legal Expenses"
- UCL costs of travel aren't. Any booked flights and hotels that need to be cancelled while the FCO guidance remains "against all but essential travel", are not covered under the insurance policy. Do assess whether the travel could be delayed until the FCO guidance is relaxed.
- UCL insurer will require assurance that all government advice and guidelines are being followed, hence it is vital to complete specific risk assessments, and both the FCO's guidance and the national or regional guidance must be followed. This should include considering the availability and standard of medical assistance available to travels in the destination country, and the ability to repatriate travels.
- If an individual is resident in an overseas country, they may not be covered by UCL travel insurance. This should be checked on a case by case basis with the UCL insurance team. For staff resident in, or on long term secondment, current overseas policy is:
- All UCL staff and students are covered under UCL's Personal Injury insurance when working on UCL business.

- This policy applies to staff and students' resident overseas, or seconded (defined as staff who are contracted to work overseas for a period over 12 months).
- Where overseas resident and seconded individual are required to travel as part of their role (either in-country or internationally), additional travel insurance should be requested here <https://www.ucl.ac.uk/staff/task/arrange-travel-insurance>, this also allows the secondee to have a health insurance policy in place for GP and pre-existing medical treatment.
- UCL insurer will require assurance that all government advice and guidelines are being followed, hence it is vital to complete specific risk assessments, and both the FCO's guidance and the national or regional guidance must be followed.
- Where staff are resident in the country, and are not a secondee, then they are responsible for their own medical and insurance cover when not on UCL business.

Note - UCL does not have any cover in force for Afghanistan, Colombia, Iraq, Mexico, Nigeria, Pakistan, Philippines, Somalia, Venezuela or Yemen. This should be flagged to RSA via the UCL insurance team.

Hazard: Heightened risk for vulnerable groups

There may be heightened risks faced by individuals from exposure to COVID-19 in community settings or the workplace. This includes people more at risk due to their ethnicity, age, disability or status as new or expectant mothers.

- Black, Asian and minority ethnic (BAME) communities are disproportionately affected by COVID-19 and may be clinically vulnerable. Concerning evidence suggests that the impact may also be higher among men and those in the higher age groups.
- There is evidence that COVID-19 has a greater impact in older age groups, particularly those over 50. Therefore, older staff and participants may be more at risk and they are also more likely to have long-term health conditions.
- People with disabilities may face additional challenges returning to fieldwork.
- Pregnant individuals, at whatever stage of pregnancy, are classed as at higher risk from COVID-19. Those returning from maternity leave must also be considered.
- If researchers wish to seek advice, or a research staff member wishes to discuss a health issue in confidence, then they can make a referral to [Workplace Health](#).

Control measures:

- Stay at home; researchers are encouraged to work from home wherever possible to do so. This is particularly applicable to those who may be at higher risk.
- UCL is taking a risk-based approach to UCL researchers who may be asked to start or return to working in fieldwork or other outdoor working (UK only). Anyone returning to fieldwork is asked to follow [UCL Coronavirus guidance](#) and refer to either Workplace Health via ohw-wellbeing@ucl.ac.uk (staff) or [Student Support and Wellbeing](#) to help ensure you are protected. However, individuals should not feel they must disclose underlying health conditions to their line manager if they do not wish to do so.
- Line managers/Principal Investigators/supervisors must have sensitive and comprehensive conversations with individuals who may be at heightened risk. They

must listen carefully to concerns, provide support and consider adjustments. Adjustments may include undertaking lower-risk tasks, limiting exposure (for example through reducing working times) and working from home

- All members of the UCL community can access support through [Care First](#).
- All research participants need to be made aware of the hazards and risks arising from their participation that may be relevant in the context of the project and consider how these will be mitigated prior to agreeing to participation.