Shaohua Pan

Designing for Elderly Care through the 'Good Old Days'

LAPIN YLIOPISTO
UNIVERSITY OF LAPLAND

SHAOHUA PAN

Designing for Elderly Care through the 'Good Old Days'

Academic dissertation to be publicly defended
with the permission of the Faculty
of Art and Design at the University of Lapland
on 2 June 2023 at 10 am.

The public defence is to take place online at Teams.

LAPIN YLIOPISTO
UNIVERSITY OF LAPLAND

Rovaniemi 2023

University of Lapland
Faculty of Art and Design

Supervised by

Professor Melanie Sarantou, the University of Lapland

Professor Satu Miettinen, the University of Lapland

Reviewed by

Professor Retha de la Harpe, Cape Peninsula the University of Technology

Professor Miaosen Gong, School of Design at Jiangnan University

Opponent

Professor Miaosen Gong, School of Design at Jiangnan University

Abstract

Elderly care has become one of the greatest social problems in developed and newly developed countries like China. To address this issue, researchers have attempted different solutions. For instance, social workers have proposed empowering the elderly by involving them directly in administering elderly care services. Service designers have also invited the elderly to participate in design, but they do so as part of the design process as a way to create more user-friendly and user-centred services. Researchers have aimed to satisfy the elderly's needs. However, in carrying out these design practices, researchers have not considered how the elderly's past life impacts their current experiences in elderly care.

In the current dissertation, I focus on how the elderly's 'good old days', that is, their previous experiences and memories, here including reminiscence and nostalgia, can improve elderly care in practice. Based on this, I ask the following questions: Why do the elderly long for their 'good old days' experiences in elderly care, and how can such experiences be translated by designers into more appropriate services and experiences for the elderly?

To answer these questions, I have adopted a pragmatic lens by conducting two ethnographic research projects—Bo-Ai and Jin-Ding—in Southern China between 2017 and 2019, the results of which were published in the first and fourth articles of the present dissertation. In the Bo-Ai project, I articulated the value of the filial piety experience (one of the 'good old days' experiences that specifically refer to the virtue of respect for the elderly in Eastern Asia) and theorised how filial piety can improve the experience of the elderly in care. In the Jin-Ding project, I defined the contents of the 'good old days' from the elderly's perspective. At the same time, I also borrowed data from a secondary project—the European-led Life 2.0—to create a comparative study of the concept of the 'good old days' and how it can be used between Eastern and Western ageing societies. The results have shown that the elderly highly value their 'good old days' experiences, regardless of culture or nationality; however, the practical implementation of the 'good old days' and extent to which they can be

used as a tool for service design varies from culture to culture. I have presented the detailed similarities and differences in the second and third articles of the present dissertation.

The three projects that were part of the research—Bo-Ai, Jin-Ding and Life 2.0—led to a few critical findings. First, the elderly want to return to the 'good old days' because the memories of these times are intimately linked to the elderly's numerous (intrapersonal, interpersonal and interactional) interactions between themselves and others. The reason why the 'good old days' are so significant for the elderly is that the memories of these 'good old days' can satisfy their physical, mental and spiritual needs. To implement the concept of the 'good old days' in practical ways in elderly care, three elements must be taken into account: transformation, participation and experience. The research can show those practitioners who work in elderly care how to pay attention to the continuity of the elderly's experiences between their past lives and current service care. The findings of this dissertation not only provide new insights for dealing with the ageing issue but, more importantly, offer the elderly the chance of improved well-being in their retirement age.

Abstrakti

Vanhustenhuollosta on tullut yksi suurimmista sosiaalisista haasteista sekä kehittyneissä että lähiaikoina kehittyneissä maissa kuten Kiinassa. Tutkijat ovat yrittäneet ratkaista tätä monella tavalla. Esimerkiksi sosiaalityöntekijät ovat ehdottaneet vanhusten voimaannuttamista osallistamalla heitä suoraan palvelujen hallinnointiin. Myös palvelumuotoilijat ovat pyytäneet heitä mukaan palveluiden suunnitteluun. Tavoitteena on ollut kehittää käyttäjäystävällisempiä ja -keskeisempiä palveluita. Tutkijoiden tavoitteena on ollut vastata vanhusten tarpeisiin. Kuitenkin heiltä on jäänyt huomioimatta vanhusten elämänkokemukset sekä nykyiset hoivakokemukset.

Tässä väitöstutkimuksessa keskityn "vanhaan hyvään aikaan", vanhusten elämänkokemuksiin ja muistoihin sekä muisteluun ja nostalgiaan. Käytän näitä teemoja vanhustenhuollon kehittämiseen käytännössä. Kysyn seuraavia kysymyksiä: Miksi vanhukset kaipaavat "vanhan hyvän ajan" kokemuksia vanhustenhuollossa? Kuinka muotoilijat voivat hyödyntää näitä kokemuksia sopivimpien palveluiden ja kokemusten kehittämisessä vanhuksille?

Vastatakseni näihin kysymyksiin, olen ottanut käyttöön pragmaattisen otteen ja toteuttanut kaksi etnografista tutkimusprojektia: Bo-Ai ja Jin-Ding Etelä-Kiinassa 2017 ja 2019. Näiden projektien tulokset on julkaistu väitöskirjan ensimmäisessä ja neljännessä artikkelissa. Bo-AI projektissa määrittelin vanhempien kunnioittamiseen liittyvää arvoa (yksi "vanhan hyvän ajan" kokemuksia, johon viitataan vanhuksien kunnioittamisen hyveenä Itä-Aasiassa) ja teoretisoin kuinka vanhempien kunnioittaminen voi parantaa hoivakokemusta. Jin-Ding projektissa määrittelin "vanhan hyvän ajan" vanhusten näkökulmasta. Samaan aikaan lainasin toissijaista aineistoa eurooppalaisesta Life 2.0 hankkeesta verratakseni "vanhan hyvän ajan" käsitettä ja tutkiakseni kuinka sitä voidaan käyttää idän ja lännen ikääntyvien yhteiskuntien välillä. Tulokset ovat osoittaneet, että vanhukset arvostavat suuresti heidän "vanhan hyvän ajan" kokemuksia kulttuurista ja kansallisuudesta riippumatta. Kuitenkin "vanhan hyvän ajan" käytännöllinen toteuttaminen palvelumuotoilun

työkaluna vaihtelee kulttuurista kulttuuriin. Olen esittänyt sekä yksityiskohtaisia samanlaisuuksia ja erilaisuuksia väitöskirjan toisessa ja kolmannessa artikkelissa.

Kolme tutkimuksen kohteena ollutta artikkelia Bo-Ai, Jin-Ding ja Life 2.0 johtivat kriittisiin johtopäätöksiin. Ensinnäkin vanhukset haluavat palata "vanhaan hyvään aikaan", koska nämä muistot linkittyvät tiiviisti vanhusten keskinäisiin ja muihin vuorovaikutustilanteisiin. Tämän vuoksi on merkittävää, että "vanha hyvä aika" voisi vastata fyysisiin, henkisiin ja hengellisiin tarpeisiin. Jotta "vanhan hyvän ajan" konseptia voidaan hyödyntää käytännössä, pitää huomioida kolme asiaa: muutos, osallisuus ja kokemuksellisuus. Tämän tutkimuksen valossa vanhustenhuollossa työskentelevien pitää kiinnittää huomiota jatkumoon vanhusten elämäkokemuksen ja nykyisten palvelukokemusten välillä. Väitöstutkimuksen tulokset eivät vain tarjoa uusia näkökulmia ikääntymiseen, vaan tarjoavat vanhuksille mahdollisuuden parempaan hyvinvointiin eläkkeellä.

Acknowledgement

Somewhere, I read that carrying out a PhD study is a life-changing experience, and I agree with this expression. During my PhD study, there were many ups and downs involved. Luckily, whenever I was at the low points, someone has always supported me mentally or academically. I want to take the time to sincerely thank those people who have helped me in the past five years of my PhD study.

First of all, my gratitude goes to my two supervisors—Melanie Sarantou and Satu Miettinen. Professor Melanie Sarantou is the one who helped me so much along the way, such as by organising my research plan, discussing my research strategy and structuring my dissertation. I still clearly remember our first talk about my research strategy and method chosen. We sat on the floor, making the research plan for my study. Besides that, Professor Melanie Sarantou was also involved in all of my publications, providing many valuable suggestions and comments. Whenever I needed help, she was always there for me. Professor Satu Miettinen helped me differently. She gave me enough freedom to develop my academic independence. For example, she encouraged and helped me do a traineeship in Germany as a visiting researcher. Most importantly, whenever I visited Lapland, she always found time to greet me with a warm welcome.

I also want to thank Enni Mikkonen, the coauthor of my fourth publication. Although we have not met each other yet, it was my pleasure to work with you. My gratitude also goes to the two primary examiners—Professor Retha de la Harper and Professor Miaosen Gong; thanks for your valuable feedback and critiques.

I would like to thank Dr Adeline Heck, who spent a lot of time reviewing and editing my dissertation chapter by chapter. I am also deeply grateful to my friend Dr Kanako Kuramitsu, who encouraged me not to give up and carry on when I was in a difficult life situation.

A special thanks goes to Patrizia Christlmeier; thank you for caring for our dear daughter when I was not around her. This gratitude also extends to my parents and the Christlmeier family. At the same time, I also want to thank Mr Yuehua Deng from Beijing Normal University China, where I worked during my PhD study. I deeply appreciate that you allowed me to be absent from my work because of my research. Without all your support, I could not have done my research in China and found the time to work on my writing.

Additionally, I must thank all the elderly who I interviewed and who participated in the workshops and focus group discussions in the Bo-Ai and Jin-Ding projects

and my dear students from the Design School of Beijing Normal University China. Without you, I would not have accomplished my research alone.

Finally, I also want to thank myself for not giving up during the most challenging time of my life.

List of Original Articles

This dissertation is based on the following original publications, which are referred to in the text as Articles I–IV.

I.   Pan, S., Sarantou, M., & Miettinen, S. (2019). Design for care: How the 'good old days' can empower senior residents to achieve better services in an aged care institution. *Design Principles and Practices: An International Journal— Annual Review*, *13*(2), Common Ground Research Networks pp. 25–40. Available online: https://doi.org/10.18848/2325-1328/CGP/v13i02/25-40)

II.   Pan, S., & Sarantou, M. (2019). Ageing communities as co-designers of social innovation. *China Journal of Social Work*, *12*(3), Taylor & Francis Group pp. 273–286. Available online: https://doi.org/10.1080/17525098.2019.17003 42

III.   Sarantou, M., & Pan, S. (2020). Design for society: Ageing communities as co-designers in processes of social innovation. *Journal of Design, Business & Society*, *6*(1), Intellect Discover, pp. 129–141. Available online: https://doi.org/10.1386/dbs_00007_1

IV.   Pan, S., Mikkonen, E., & Sarantou, M. (2020, July). Relevance of the 'good old days' in designing holistic aged care services. In *Proceedings of the 22nd DMI: Academic Design Management Conference* pp. 1052–1063. Design Management Institute.

List of Diagrams, Photos and Tables

Diagrams:

Photos:

Tables:

Table of Contents

1. Introduction

Demographic ageing is becoming one of the greatest challenges in contemporary society because of increasing life expectancy and decreased fertility rates. At least partially, people's increased life expectancy can be credited to medical advances in elderly care. However, it is important to be aware of the challenges posed by the ageing issue and its consequences. According to the average age of retirement—64 in the European Union (EU) and 60 in China—in 2060, the number of people who will reach this age in the EU is anticipated to be 29.5% of the EU's total population (European Union, 2015), while the number of people over 60 is expected to rise to 35.9% in China (Statista, 2019). The ageing population may have a profound effect on society by leading to, for instance, declining economic growth, changing family and social structures, shifting patterns of work and retirement, evolving social insurance systems and so forth (Aboderin, 2017; Dobriansky et al., 2007; Harper, 2014; Hemerijck, 2012). Thus, we can say that ageing matters. Hence, within this context, the question of how to perform elderly care becomes another emergent challenge.

In response to the challenge of how to provide better elderly care for more people, supportive policies, plans and regulatory frameworks should be made by authorities, decision-makers and innovation sectors. Welfare nations, like the Scandinavian countries, need to develop social support and insurance systems. However, in a DEMOS report, Bazalgette et al. concluded that 'ageing in itself is not a policy problem to be solved …' (2011, p. 1). The World Health Organisation (WHO) has proposed integrated care for older people that combines information and communication technologies and community- and home-based care to help provide personalised care (Goodwin et al., 2014). However, ageing and elderly care are more complicated than at first glance because they involve the individual's physical and psychological well-being, their emotional experiences—both past and present—and social and family engagement (Hooyman et al., 2014). Nevertheless, the most common and basic philosophy of care generally entails placing the individual at the centre of care, as Rasmussen et al. (2014) claimed. Rasmussen et al. (2014) also pointed out two other principles for generating good care. First, seeing the individual as a 'person' rather than a 'patient' emphasises the individual's preferences, needs and abilities. Second, good care goes beyond physical treatment by considering the social and psychological aspects such as lifestyle, habits and family status.

As designers, we see ageing as a wicked problem (Rittel & Webber, 1973), which can be defined as a situation in which it is difficult to describe the causes of the

issue and which does not have one correct solution when placed in the scope of traditional scientific processes. This is because traditional scientific processes aim to interpret and analyse problems without intending to solve them. However, design processes differ from science in that they do not look for the truth; instead, they aim to make changes for good—changing the current situation to the preferred one (Simon, 1988). In doing so, designers use their way of thinking and working, which is usually called 'design thinking' (please see section 2.1). The design process holds two distinct phases: problem definition (analytic sequence) and problem solution (synthetic sequence; Buchanan, 1992). Thus, Buchanan (1992) concluded that design processes remain a surprisingly flexible and prompt activity when it comes to dealing with wicked problems.

In the current dissertation, I step into the field of elderly care as a designer with a unique but interesting angle—asking whether the 'good old days' experiences can help deal with the ageing problem. The 'good old days' experience here refers to the past experiences of the elderly that involve good memories. These 'good old days' usually have strong commercial potential because those products that can evoke old memories are perceived as more attractive by senior customers (Havlena & Holak, 1991). In recent years, the 'good old days' have also been used as therapy for seniors with dementia to address their memory problems (Kuwahara & Morimoto, 2015) and for regular seniors to improve their well-being and happiness (Addis et al., 2010; Charles et al., 2003). For instance, one method has been using reminiscence as a form of therapy to enrich the lives of someone who has dementia (Cotelli et al., 2012; Schzeitz & Bruce, 2008). However, the idea of the 'good old days' itself has not been systematically discussed in terms of elderly care, and it has not been debated in the literature enough regarding how it can increase elderly care service from a design perspective. Therefore, in the present dissertation, I took on the role of a design researcher, studying and enquiring into the metaphorical notion of the 'good old days'. More specifically, the 'good old days' refers to reminiscing, nostalgia and memories from the elderly's past. The current research explores how to use the 'good old days' in the field of elderly care to deal with the wicked problem of designing suitable caring processes and services for ageing populations.

1.1   Research background and context of the study

In practice, there are many studies that have already confronted the problem of ageing. For example, to deal with the problem of caring for ageing baby boomers in the year 2030, Knickman and Snell (2002) indicated that, to solve this issue, society should first make sure social payment and insurance systems for long-term care work better than the current versions. Second, society should take advantage of advances in medicine and behavioural health to keep the elderly as healthy and active as possible. However,

these two requirements depend on financial support from the elderly's families or from their insurance companies, along with adequate medical treatment for their specific physical needs, for example, as in the Scandinavian countries. Knickman and Snell (2002) also proposed improving and changing the available social community services to make care more accessible, as well as to ensure all elderly people can integrate into the fabric of community life. Critically, the last two suggestions show that future design for ageing should pay attention to service design. Moreover, these services must be accessible to the elderly (e.g., should be human-centred, user-friendly, or user-desirable concepts) and involve the elderly's participation.

Two concepts from gerontology can help designers better target these needs in practice: the first is 'ageing in place' (Andrews & Phillips, 2004; Sixsmith & Sixsmith, 2008), which includes ageing at home (Milligan, 2016), as well as ageing in the community (Thomas & Blanchard, 2009); this concept emphasises the importance of a home feeling, home-like environment and community integration. These practices reflect that design for elderly care is not just a location problem (the where of ageing) but also a physiological problem (the why and how) because the elderly feel much more comfortable living in the place where they used to live with familiar faces and surroundings. Another practical concept of ageing in culture (Fund, 2013) has claimed that elderly individuals from different backgrounds should be immersed in their own cultural context to pursue their well-being goals. Furthermore, ageing in culture helps show how elderly care should consider elderly individuals' social context. These concepts all point in one direction: the well-being of elderly care is associated with familiarity with, for example, the places and people stemming from the older people's past experiences. At the same time, in design practice, the first task is always to gain a comprehensive understanding of the user and their needs, and the goal is to create a human-centred design solution (Norman, 2013). However, the elderly's past experiences do not receive enough attention from the designers who are involved in designing for elderly care. Therefore, in the current study, the past experiences of the elderly are placed at the centre of the care process. As I said that the term 'good old days' is a metaphorical notion of the 'past experiences' of the elderly. I explain why I use this term in section 2.3. The three following themes are central to my thesis: 1) targeting groups of elderly people and ageing communities; 2) focusing on understanding what their 'good old days' experiences are; and 3) exploring how their 'good old days' can improve elderly care through design practice.

Interestingly, to implement the 'good old days' experiences in elderly care, different social contexts have preferences based on their respective national and cultural backgrounds. In European societies, the elderly value their independence and make this their priority, regardless of their ageing places. It is important for the elderly from European nations 'to maintain independence, autonomy, and connection to social support, including friends and family' (Wiles et al., 2012, p. 357). It is not common in European countries to share one's space with one's family members. This is not the

case in Chinese society. According to Chinese national ethics, interdependence—or the engagement of family members—is more important than independence (Sheng & Settles, 2006). The service of elderly care in the Chinese context follows the culture of filial piety (a virtue of respect for one's parents, elders and ancestors in Eastern Asia. Please refer to section 2.3) between the elderly and young. Filial piety indicates that the elderly have priority on many occasions, and the young generation chooses to cater to it because Chinese filial culture is based on an 'obligation' perspective, not 'rights' perspective. This distinction between 'rights' versus 'obligation' will be explained further in the present thesis, here exploring how the 'good old days' experiences can be implemented within a European versus a Chinese context—Articles II and III document these differences (refer to section 1.5).

Regarding the distinction between Western countries and China, social psychologist Richard E. Nisbett (2004) concluded the following:

> The social structures and sense of self that are characteristic of Easterners and Westerners seem to fit hand in glove with their respective belief systems and cognitive processes. The collective or interdependent nature of Asian society is consistent with Asian's broad, contextual view of the world and their belief that events are highly complex and determined by many factors. The individualistic or independent nature of Western society seems consistent with the Western focus on particular objects in isolation from their context and with Westerners' belief that they can know the rules governing objects and therefore can control the objects' behavior. (p. XVii)

Nisbett (2004) further defined this cultural difference as two separate conditions in the experiment, an 'alone' condition and 'group' condition. They can also be understood as two different beliefs: individualism and collectivism. I do not want to exaggerate the difference between Western and Eastern cultures here. My personal identity and cultural background are tied to China. This explains why the current study centres on Chinese society. The two projects—Bo-Ai and Jin-Ding (refer to section 1.3)—were conducted in China, and accordingly, two papers (Articles I and IV; refer to section 1.4) were also published in international journals as well. They question what kinds of 'good old days' experiences are provided in elderly care in China and how. They also examine how the 'good old days' experience can empower service in elderly care. As a professional designer, I am interested in how 'good old days' experiences work in different societies and cultural contexts from a critical perspective. Based on a comparative study of China and Europe, I then published two more papers that closely and critically compared societal specificities. These comparative studies detailed the similarities and differences of 'good old days' experiences, explaining how they can empower the design process and improve service in elderly care.

1.2   Overview of the conceptual framework

After the introduction above, I drew Diagram 1 to demonstrate the conceptual foundation of my thesis. First, the 'good old days' experiences of the elderly are the current dissertation's research objectives. Second, elderly care and the ageing community are the subjects of the study. Third, service design plays a vital role in transforming the 'good old days' experience into practice. A further in-depth discussion will be given in the literature review chapter.

DESIGN
Service Design
Design for Transformation

GOOD OLD DAYS
Culture of Filial Piety
Nostalgia

ELDERLY CARE
Ageing in Place
Ageing in Culture
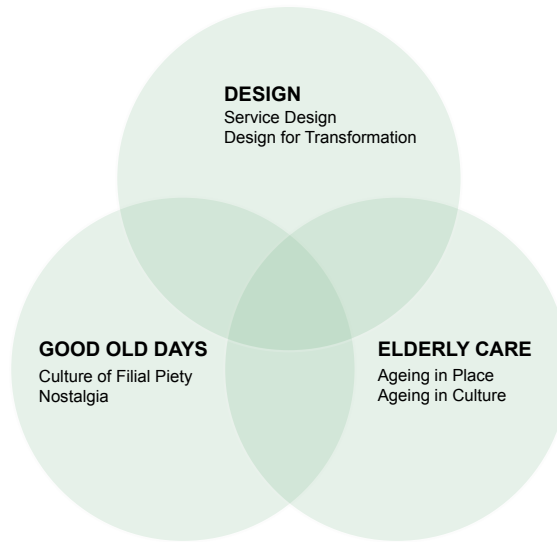
Diagram 1: *The overview of the conceptual framework of this study*

As Diagram 1 illustrates, design is the first conceptual theme, which rests at the top of this diagram. In the present study, design is not merely viewed as the outcome, but also as the action or process of doing design. For instance, service design plays an essential role in Bo-Ai and Life 2.0, which were used as solutions to change currently inadequate services (i.e., Bo-Ai) or create a new service (i.e., Life 2.0). Participation design and empowerment design were the concepts used to accelerate and accomplish the transformation in the design process in both projects (Bo-Ai and Life 2.0). The second theoretical theme is elderly care, which I first explain as what care and elderly care are conventionally seen as by ordinary people; and then, I briefly introduce what the concepts of ageing in place and ageing in culture are. The third theme is the 'good old days'. I start by studying how the 'good old days' as a term has been used in pop culture before explaining how it has been accepted in the marketing and academic fields. Particularly, I introduce nostalgia as one type of the 'good old days' experience in Chinese context and which was widely discussed in my first project, Bo-Ai.

1.3 Introduction of the substudies

The substudies involved three different projects: Bo-Ai, Jin-Ding and Life 2.0. The first two projects (Bo-Ai and Jing-Ding) were conducted in China by students at Beijing Normal University Zhuhai (BNUZ) and myself to collect first-hand data. The third project (Life 2.0) was funded by EU Commission under grant number 270965. The adoption of the Life 2.0 project aimed to compare the value of the 'good old days' in different cultural contexts between Europe and China.

1.3.1 Substudy: The Bo-Ai project

The objective: Prototype a service with food arrangement to strengthen the family atmosphere in elderly care
The date: 2017
The place: Zhuhai, China
The outcome: A new service prototype
The participants: Five older people, one service provider from Bo-Ai and seven design students from BNUZ
The publications using this project: I, II and III

Photo 1*: The Bo-Ai project (a new food arrangement service design) in Zhuhai, China, 2017*

Bo-Ai was the initial research project of my PhD studies. Bo-Ai is a senior care home located in Zhuhai, Guangdong Province, in the south of China. It was established in 2010, hosting approximately 120 senior residents whose average age

is 71 years. The elderly stay in an individual or shared room(s), depending on their financial situation.

To improve its competitiveness in the market, the Bo-Ai senior home was seeking a new means to increase the quality of its elderly care services. I was invited by the manager of the Bo-Ai home to work on problem-solving regarding how to increase quality. I first tried to find out what the inadequacies of the current elderly care services at Bo-Ai were before generating new services for the elderly and service market in the city of Zhuhai. I formed a team with seven volunteer students from the design school of BNUZ and conducted the project from September 10 to 25, 2017.

We began this research with a questionnaire we designed; we interviewed both the elderly residents at Bo-Ai and the service providers. Afterwards, we found that the food arrangements at Bo-Ai lacked the family environment and community atmosphere involved in the traditional Chinese culture of filial piety. Thus, at Bo-Ai, we defined the culture of filial piety that the elders were intimately familiar with as an area to address because it was very much associated with the feeling that they were being cared for and respected by others. Based on the positive components given to us by filial culture and active participation of the older people in the process, new food services with appropriate table arrangements and more contact between the residents and service providers were prototyped and tested at lunchtime. The result of this project successfully resolved the problem of the previous inappropriate dining culture. For instance, the solutions included adopting a round dining set instead of separated ones; the seating order following the individual's age; and all people sharing their food with each other, hence forgoing individual servings (please refer to my first publication).

In this project, I realised the value of senior people's past experiences, demonstrating the benefit of their participation in service design. Regarding the main task of this project, which was to create a new elderly-friendly and competitive service, the concept of the 'good old days' can be a useful resource to provide an alternative understanding of elderly-friendly service design in elderly care service. Moreover, it can help improve elderly service care providers' competitiveness in marketing as well.

1.3.2   Substudy: The Jin-Ding project

The objective: Defining the meaning of 'good old days' in terms of elderly care
The date: 2019
The place: Zhuhai, China
The outcome: A model of 'good old days' for the design process
The participants: Older people, service providers, design students
The publication using this project: IV

Photo 2: *The Jin-Ding project (kicking off moment) in Zhuhai, China, 2019*

Jin-Ding is a community located in the rural area of Zhuhai. After exploring the important value of the elderly's past experiences through the Bo-Ai project, the Jin-Ding project took further steps to explore what meanings elderly give to their past experiences. This project aimed to define what types of 'good old days' the elderly were more appreciative of in their retirement time and why. To this end, the study was composed of two parts: a semistructured interview (involving 25 elderly interviewees and 30 bachelor design students) and a focus group discussion (4 elderly participants and 12 master design students). The study was conducted from April 4 to 10, 2019.

The first step was a semistructured interview with three prepared questions: 1) What past 'good old days' experiences are the elderly willing to go back to (with the aim to know the content of their 'good old days')? 2) Why are these experiences so important to them (to know the reason why these experiences are important for the elderly)? 3) How do these past experiences impact their retired life (to gain inspiration for designing new elderly care services)? Thirty students from the BNUZ design school volunteered. Three students were grouped into an interview team. In each group, one student was in charge of interviewing, one was taking notes, and one was observing. The interviews took place between 9:00 a.m. and 11:00 a.m. at locations such as residential areas, senior homes and street markets because this was the usual time when the local seniors would meet up with each other. In the end, 25 interviews (with 13 females and 12 males) were conducted and subsequently analysed.

The second step involved the participation of four senior individuals (two males and two females), who were invited to a focus group discussion between 9:00 p.m. and 12:00 p.m. The conversation was divided into three parts, with an introduction, discussion and final analysis. The introduction was intended to let all the participants emphasise the purpose and process of the interview, as well as the different participants involved, to avoid misunderstandings or confusion. The discussion was designed for four different groups; each elderly individual was grouped with three young master's students. The same questions prepared for the first step were again asked in group discussions, but these questions led to more in-depth discovery than the first step. The elderly participants were welcome to use all the tools at their disposal (e.g., smartphones, tablets, drawing or storytelling) to express their true feelings and experiences. In the end, all the results were placed on a working wall to illustrate the working process. All participants, including the elderly and interviewers, were encouraged to express their understanding of the 'good old days'. There were three main themes of the older participants' past experiences or memories that arose from our collective findings: 1) being with nature; 2) being with the community; and 3) being creative.

1.3.3   Substudy: The Life 2.0 project

The objective: To carry out a comparative study between Chinese and European societies.
The date: 2010–2013
The place: EU countries (Denmark, Finland, Italy and Spain)
The outcome: A digital platform for social network service
The participants: Older adults, business sectors, local associations, designers and IT supporters
The publications using this project: II and III

To begin with, the Life 2.0 study was conducted by other researchers, so I was not personally involved. The reason why this project was adopted into the current research is that it provided a suitable source of secondary data that could be accessed through the forthcoming publications from the Life 2.0 project. I identified a need to compare my own Bo-Ai and Life 2.0 projects to better understand the similarities and differences between Chinese and European societies and how it might impact the decisions taken in design processes within ageing populations in these contexts. More specifically, the aim was to study how past and personal experiences inform the design process in elderly care services. Because the Life 2.0 project was a second-hand course, it has been coloured in grey in Diagram 2.0 (below), unlike the Bo-Ai and Jin-Ding projects, which are marked in black.

For comparison purposes, I selected five papers in relation to the Life 2.0 project and closely studied them. Then, I published two comparative papers (please refer to

sections 1.5.2 and 1.5.3 in this chapter). The Life 2.0 project originally was funded by the European Commission and conducted in several cities such as Aalborg (Denmark), Joensuu (Finland), Milan (Italy) and Barcelona (Spain) between 2010 and 2013. The reason why the European Commission supported this project was also because of the increasing ageing population and elderly care challenges related to that demographic shift in European countries. The goal of Life 2.0 was a) to increase the opportunities for social contact among the elderly in their local area; b) to acquire information about events occurring close by where people live; c) to get to know the commercial services and assistance available in the area; and d) to offer the elderly residual capabilities and skills to friends, family and other people of any age living in their area (The Community Research and Development Information Service of the European Commission [CORDIS], 2010). One solution was to generate a digital platform that included three components: announcements, events and a marketplace. As Morelli (2015) emphasised, 1) 'announcement' refers to people who can provide and/or request help from each other to address daily life difficulties; 2) 'events' are the local organisations that can post information on upcoming activities on the digital platform that Life 2.0 aimed to design for the local communities; and 3) 'marketplace' refers to all relevant business sectors that can advertise their business information to local residents. The Life 2.0 project started from the assumption that elderly people are a resource rather than a problem. The inspiration for the three components provided within the new digital platform was directly related to the elderly's life experiences. At the same time, it is precise because they are experienced that the elderly could act as active cocreators during the design process of creating the new digital platform. In other words, as Morelli (2015) said, life stories shared by older adults can inspire solutions during the process of problem-solving, and they can also empower these individuals to participate in the problem-solving process.
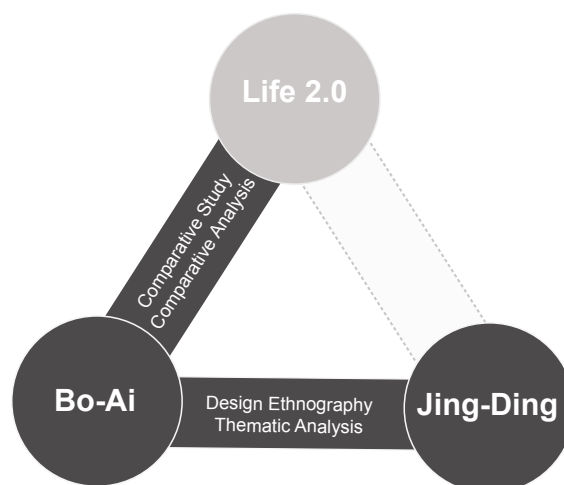
Diagram 2: *The connection between the three substudies of this research*

To give readers a better understanding of the relationship between these three projects and their respective research approaches, I have created Diagram 2.0. The two circles at the bottom of the diagram in black are the projects Bo-Ai and Jin-Ding, with these two projects having been conducted in China and led by me. The bridge between Bo-Ai and Jin-Ding shows that the main research method of those two projects was ethnography. The area with light grey background at the top of this graphic is the Life 2.0 project, which was conducted by other researchers in EU countries. There are two bridges under the project Life 2.0. One is between Life 2.0 and Bo-Ai, which applies to the comparative studies. This comparative study intends to validate if the 'good old days' experiences are relevant in relation to elderly care and further explore how the 'good old days' experiences are applied to elderly care services in different cultural contexts. In contrast, the bridge between Life 2.0 and Jin-Ding indicates that no comparative study has been conducted. The reason is that the validation of the 'good old days' in elderly care practice has been accomplished in the Bo-Ai and Life 2.0 comparison. Additionally, the Jin-Ding project set out to define the themes of 'good old days' and discuss the relevance of the 'good old days' in elderly care, rather than conducting another comparative analysis. That is why the bridge is blank and drawn with dotted lines.

1.4   Overview of the research methodology

After introducing the research background, context and projects related to the current study, in the next sections, I introduce the aim and objectives, the research question(s) and an explanation for how the present research was designed.

1.4.1   The research questions

The current study consists of three different conceptual themes: the 'good old days', elderly care and design. The main research question has been formulated as follows: In practice, how do the 'good old days' help improve the quality of elderly care services?

To answer the main research question, I have devised three subresearch questions:

1) What kind of 'good old days' experiences do the elderly want to return to?

2) Why are those 'good old days' experiences so important to the elderly?

3) How can the 'good old days' be implemented in elderly care services?

These three subresearch questions have been examined through three projects and embedded in the four different peer-reviewed articles. The articles will be introduced in the following sections.

1.4.2   Aim and objectives of the research

Along with attempting to answer the research questions, the current study has aimed to measure the value of the 'good old days' experiences and provide more possible solutions for elderly care that can strengthen both the amplification of elderly care and practice of the design process.

To achieve this goal, I have established the following research objectives:

1) To define the content of older people's past experiences and convey the meaning that older people give to them.

2) To argue how the elderly, with their past experiences, can participate in the design process.

3) To clarify the value of the 'good old days' in terms of how they inform the design process in practice.

1.4.3   Summary of the research strategy

To answer the research questions, I have adopted ethnography as the main research method. Ethnography is a qualitative research method that is an essential strategy to explore the social phenomenon (Princeton University, n.d.; Harrison, 2018). Ethnography is a type of study involving an in-depth and systematic study of groups of people (Madden, 2017); it provides different research methods such as observation, interviews and focus group discussions, all of which were applied to the Bo-Ai and Jin-Ding projects.

1.5   Introduction of the academic articles

In the following sections, I introduce the four articles that comprise the current PhD study. In Articles I, II and IV, I acted as the first author, while I was the second author in Article III. The first three articles (I, II and III) were published in international journals in the US, HK and Australia, and the last one was presented at a conference in Canada. Thus, they all reached level one status, according to JUFO evaluation (Julkaisufoorumi, a Finnish classification system for scientific publication channels). At the end of this section, a diagram is given to demonstrate the timeline of each publication.

This article investigated the 'good old days' through field research conducted at the Bo-Ai senior home in China (referred to as the Bo-Ai project). Here, the 'good old days' concept means the memories or experiences of the elderly from their past. This article asked the following question: How do the 'good old days' empower elderly people to achieve better service in care? I was the first author of this article, meaning that I was in charge of data collection and analysis. Melanie Sarantou and Satu Miettinen were the coauthors and contributed to analysing the data and producing new findings. The article was published in the *International Journal of Design in Society* in 2019.

The paper mainly documented the entire process of research and design for the Bo-Ai project. It started by reviewing the design literature, such as service design and participatory design, before introducing the filial piety culture. Then, the content focused on understanding the institutional context of Bo-Ai, defining the problems therein, designing and prototyping new services and testing these services in a real-life context. The paper argued that the main problem at Bo-Ai was the lack of an appropriate dining environment and welcoming atmosphere in food services. To address this issue, I placed traditional Chinese filial culture as the lead source of inspiration in problem-solving, a direction confirmed by the elderly as well. The subsequent codesign process was carried out by me, the elderly and a local service provider; this led to a new food service being prototyped.

In the findings section, the paper put forward the argument that the past experiences of the elderly can strengthen the service experience in elderly care. Three different experiences, such as participatory experiences, pleasant experiences and profound experiences, were shown to be the factors that can improve the service experience in the practice of elderly care. At the end of the paper, it was stated that food services should be about nutrition just as much as the possibility for the elderly to recreate a family atmosphere. To make this happen, it was suggested that the 'good old days' of the elderly should be taken into account when designing for elderly care.

As the first author, I had the main responsibility for this article, which included identifying the research topic and interpreting all the workshop methods, data collection and analysis. I also revised the article after receiving comments from the coauthors and editors from the journal *Design Principles and Practices*. As a result, this article was ranked JUFO 1 based on the Finnish Publication Forum.

1.5.2 Article II. Ageing communities as codesigners of social innovation

This paper was initially presented at the 10th International Social Innovation Research Conference at Ruprecht-Karls-University in Heidelberg (Germany) from September 3 to 5, 2018. Afterwards, it was revised and published in the *China Journal of Social Work* in 2019 after some improvements and new insights had been added. This paper discussed how the past experiences of the elderly could provide an opportunity to create new solutions for elderly care in different cultural backgrounds. Its theoretical foundation was based on a comparative study between the Bo-Ai project in Chinese society and the Life 2.0 project in the EU.

Based on the main research question, the paper generated two subresearch questions: What role can the ageing community play in creating new service solutions? How can the past experiences of the elderly empower them to develop their own services? Through a comparative study of their methodology and processes, the similarity between the two projects was, first, that the elderly can be seen as the main resource in trying to understand the contexts of living and working in ageing communities. Second, both projects used the notions of participatory design and empowerment to create solutions or make changes, even though the cultural backgrounds involved were different. In the Bo-Ai project, filial culture helped prototype a new food service based on shared cultural values. At the same time, Life 2.0 made use of local communities' input to create a digital platform with the help of ICT (Information Communication Technology) technology.

The paper concluded that the elderly can no longer be seen as 'destroyers' or passive users by design professionals when solutions are being created. Instead, they should be perceived as codesigners, active participants and facilitators in the design process because they are the experts of their own lives and know their living conditions much better than outsiders. The experiences of the elderly and their knowledge of the past can fuel the problem-solving and design processes.

I had the main responsibility for this article, which included defining the research question, selecting all the papers related to the secondary source—the Life 2.0 projects—and comparing Life 2.0 to my Bo-Ai project. I also revised the article based on comments from other reviewers and editors from the journal *China Journal of Social Work*. As a result, this article was ranked JUFO 1 based on the Finnish Publication Forum.

1.5.3 Article III. Design for society: Ageing communities as codesigners in processes of social innovation

This article was quite similar to Article II in terms of its strategy. They were both based on a comparative study between the Bo-Ai and Life 2.0 projects. However, this article took a different angle to make the comparison unfold: biased social innovation, which is how codesign intervenes in social issues, such as elderly care. The research question was formulated as follows: How do the ageing communities collaboratively work with multiple stakeholders, including designers, service providers and managers, to develop new services for their own society? In this paper, I was the second author, contributing information from the five papers related to the Life 2.0 project, and I cowrote the paper as well.

This article emphasised how design ethnography could empower the codesign process in both the Life 2.0 and Bo-Ai projects in different ways. The Life 2.0 project used ethnography to define the scenarios of the elderly, such as 1) taking care of family members as their responsibility; 2) maintaining social networking and relationships; 3) information exchange, planning activities or events and rendering help. However, the Bo-Ai project used ethnography to define design problems, such as 1) an inappropriate dining environment, 2) a lack of community atmosphere and 3) the absence of 'good old days' experiences.

Furthermore, another critical component was the findings section. There were five dominant themes that arose after the comparative analysis: socialisation, personalisation, value, engagement and scalability. The paper concluded that these five themes could serve as a framework offering direction for new design perspectives and service design processes. Socialisation emphasised the consideration of cultural differences and contexts in design practice. Personalisation addressed the personal needs and specific experiences of the elderly besides the more general and group needs. The theme of value was very much linked to social context, for instance, with the Chinese elderly valuing traditional filial culture. The Chinese elderly were found to enjoy being served by others, while the European seniors valued their independence. Engagement was related to participation or codesign in decision-making processes. As the last theme, scalability (Morelli, 2015) was questioning how new solutions can be implemented into sustainable services from an experimental or prototyping phase.

In conclusion, the article replied to the research question that ageing communities should be welcomed by designers and actively engaged in the codesign process. At the same time, during the design process, socialisation, personalisation, value and scalability should also be taken into account to create an elderly-friendly society.

I am the second coauthor of this article and equally contributed to most of the sections with the first author, such as the introduction, theoretical framework and research method. Because this article is based on the same comparative materials as Article II, I was responsible for selecting all relevant papers for the study. As a result, this article was ranked JUFO 1 based on the Finnish Publication Forum.

1.5.4 Article IV. Relevance of the 'good old days' in designing holistic aged care services

This is an 'Accepted/Original Manuscript' of an article presented/published by the 22nd dmi: Academic Design Management Conference Proceedings in 2020, available online: https://www.researchgate.net/publication/343389934_Relevance_of_the_good_old_days_in_designing_holistic_aged_care_services

This paper was based on the content of the Jin-Ding project, which was conducted in the Jin-Ding community in Zhuhai, China. It aimed to explore the relevance of the 'good old days' concept in service design when applied to elderly care. Two subquestions were addressed: 1) What meaning do the elderly give to their 'good old days' experiences? 2) How do the 'good old days' experiences inform the design process as a way to improve elderly care? I was in charge of data collection, data analysis through field research in China and leading the writing process with my coauthors.

The first question was answered through an interview and focus group discussion as part of the Jin-Ding project. After analysing the results, the 'good old days' of elderly people were sorted under three main themes: 1) being with nature, including gardening, growing vegetables and other outdoor activities; 2) being with their community, including taking care of family members, connecting with friends and maintaining neighbourly relationships; and 3) being creative, including cooking for the family, singing and dancing, handicrafts, hobbies and arts. The most important findings were that those three themes were associated with the elderly's well-being. For example, being with nature and/or being creative can bring the elderly a pleasant sense of attachment to their past; and being with their family and community can help maintain harmonised relationships with others.

This article also discussed how the 'good old days' experiences empowered the design process in creating elderly care services. To elaborate on the power of the 'good old days' experiences, the paper first adopted the double diamond model with its four steps: discover, define, develop and deliver. Second, the authors focused on the principles of utilising the 'good old days' notion in designing for elderly care. For instance, the elderly should be placed at the centre of the design process, and their 'good old days' experiences should be considered the focus, even as the result, within the design process. Third, design ethnography, including interviews and focus group studies, was strongly recommended as a research method. Finally, the authors

explained how the concept of the 'good old days' gradually informed the design process in each diamond and step, which can give designers a better understanding of how to apply the practice. In sum, the 'good old days' concept was clarified as a meaningful element for designers in creating holistic elderly care services.

As the first author, I had the main responsibility for the article, which included identifying the research topic, explaining the workshop methods and producing the primary findings. At the same time, I was also responsible for leading the writing process and explaining all the questions and comments the coauthors posed. As a result, this article was ranked JUFO 1 according to the Finnish Publication Forum

No. III Article (2020)
Design for society: Ageing Communities as
Co-designers in Processes of Social Innovation.
Journal of Design, Business & Society, 6(1), 129-141.
DOI: 10.1386/dbs_00007_1

No. II Article (2019)
Ageing Communities as Co-designers of
Social Innovation.
China Journal of Social Work, 12(3), 273-286.
DOI: 10.1080/17525098.2019.1700342

No. I Article (2019)
Design for care: How the "good old days" can empower senior residents to achieve better services in an aged-care institution.
The International Journal of Design in Society, 13(2), 25-40.

No. IV Aticle (2020)
Design for care: How the "good old days" can empower senior residents to achieve better services in an aged-care institution.
The International Journal of Design in Society, 13(2), 25-40.

Diagram 3: *The connection between my four publications and three sub-studies*

Along the introduction of each article, diagram 3.0 above shows the timeline of my research procedure. The diagram not only indicates the date of each article, but also the connection between different projects. For instance, the first article was published in September 2019 and was based on the Bo-Ai project, as the circle at the bottom left indicates. Following the bridge between the Bo-Ai and Life 2.0 projects from bottom to top, I published two more articles in 2019 and 2020, both of which were comparative study papers. The last article was published in May 2020, showing another circle in the dark at the bottom right based on the Jin-Ding project. This graphic provides a guideline to indicate which article has adopted which concepts or theories.

No. I Article (2019)	Service Design
No. II Article (2019)	Participatory Design
	Empowerment Design
No. III Article (2020)	The "Good Old Days"
	Culture of Filial Piety
No. IV Article (2020)	Elderly Care
	Design for Elderly Community
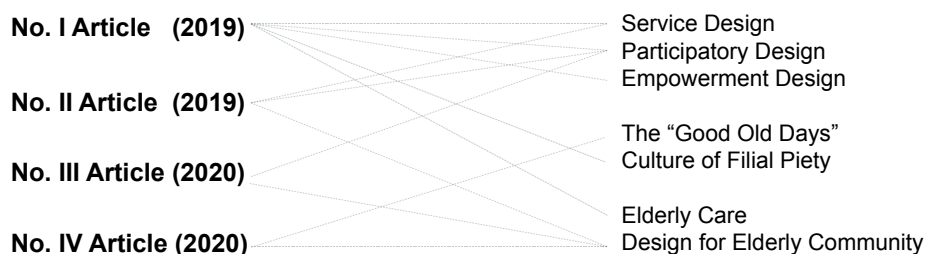
Diagram 4: *The relevance between the published articles and concepts or theories used in the study*

While Diagram 3 shows the timeline of the research and publishing process, Diagram 4 indicates how the four published papers built up the theoretical framework of the current thesis. As the diagram shows, Article I has been based on the concept of design, including service design, participatory design and empowerment, to discuss the value of filial piety culture. Afterwards, the focus of Articles II and III gradually shifted to social relevance in elderly care and in the elderly community. Article IV focused on exploring the implication of the 'good old days' in elderly care practices. However, as Diagram 4 shows, the term filial piety—one of 'good old days' experiences—was the starting point of my research, before three themes emerging out of 'good old days' eventually ended up being the findings of the research. Only looking at the right side of Diagram 4, there are three different clusters: design, the 'good old days' and elderly care. Those three clusters comprise Diagram 1, which has been shown at the very beginning of this chapter.

1.6   The subject position of the researcher

In this section, I share a personal story that motivated me to carry out the current study. In 2015, about a year before I started my PhD at Lapland University, two important things happened in my life. The first one was fortunate, which was the birth of my daughter, Kristina. The second one, however, was unfortunate: my 92-year-old grandmother passed away. In that year, I witnessed the beginning and end of human life. Of course, I was very happy to see my new-born daughter, but my grandmother's death came as a huge shock. Before passing away, she had gone through a few hospital stays. My family often mentioned a story of her: she insisted on staying at the hospital, even though the doctor said she did not need to. This made me curious as to the reason behind her wish. Her answer was surprisingly simple: 'Because there is someone at the hospital with whom I can share my past experiences. This makes me really happy. I do not care when I am going to die

because it will happen sooner or later anyway. However, I really do enjoy sharing my past experiences with someone who can understand. None of you understand this'. Her response made me speechless. I grew up with her in a small village, where I was born. I thought that I was the one who understood her more than anyone else, but in fact, I did not understand her like I had thought.

After my grandmother passed away, I could not stop thinking about why her past experiences were so important to her and about what she may have wanted to share her experiences with other, senior patients. Do those past experiences also matter to other grandmothers? If so, how do past experiences make the elderly happy? One year later, I brought those questions over to my PhD studies at Lapland University.

Because I come from the field of visual communication design, I have done different advertisement and branding projects to satisfy the needs of the companies who hired me. However, in most cases, my job was aimed at maximising the financial benefits of these companies, with less consideration given to the users' needs and experiences. After some years, I have realised that design should go beyond merely commercial benefit, instead relating more to human's well-being. In other words, design should be 'for profit and for good', as Rytilahti and Miettinen (2016) argued. Following this insight, the current dissertation has focused on design for elderly care.

1.7   The outline of the dissertation

The present dissertation is divided into five different chapters:

Chapter 1 is the introduction, where the research focus and research questions are introduced. At the same time, the three substudies and four articles I have published during the course of my PhD studies are introduced. This is followed by a brief summary of my research philosophy and research methodology.

Chapter 2 is the literature review. It covers three theoretical frameworks—design, the concept of the 'good old days' and elderly care. First, service design, participatory design and empowerment (design) are introduced. Second, I define the concept of the 'good old days' and provide more information about its theoretical and practical uses. Finally, I discuss elderly care and its social implications.

Chapter 3 is the methodology chapter. Starting with a statement of my research philosophy and research approach, I discuss the chosen research strategies of ethnography and comparative study. Afterwards, my data collection and data analysis methods are introduced.

Chapter 4 summarises the key findings of each published paper. The findings are divided into three different topics: 1) The 'good old days' fulfil the various needs of the elderly. 2) The 'good old days' include diverse interactions of the elderly. 3) Transformation plays an important role in translating the 'good old days' in elderly care (services).

Chapter 5 further discusses 1) how the 'good old days' fulfil the different (physical, mental and spiritual) needs of the elderly in care; 2) how the 'good old days' experiences help bridge the gap between the interpersonal, interactional and intrapersonal communications of the elderly; and 3) how the 'good old days' should be used in designing for elderly care.

2.   Theoretical Framework

My methodological approach draws from three different individual areas: design, elderly care and the 'good old days', a concept attached to ethics, positive psychology (Gable, & Haidt, 2005) and gerontology (please refer to the right side of Diagram 5). These three parts have been derived from the concepts I adopted in the four articles (please refer to the left side of Diagram 5).
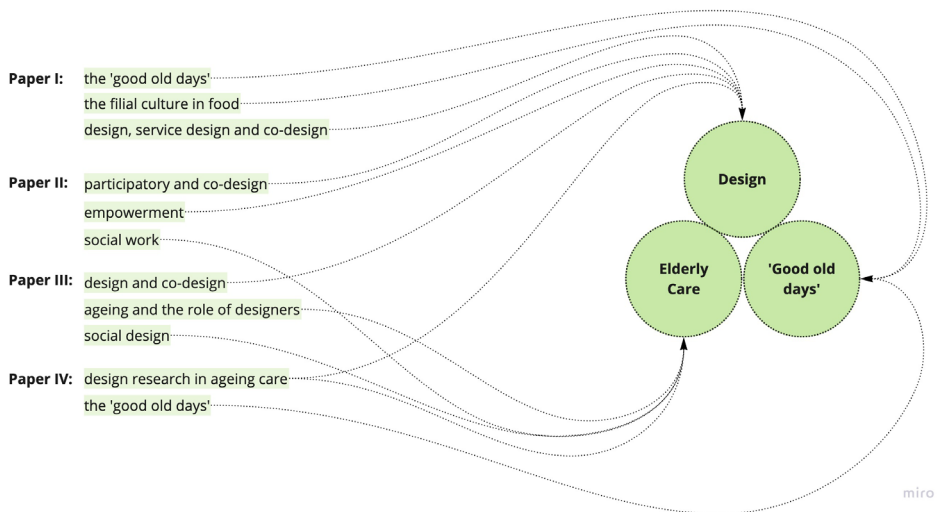
Diagram 5: *The components of the literature review.*

Overall, this theoretical framework has provided guidance for my study and has shaped my way of thinking during the writing phase. Diagram 5 and the following sections further demonstrate the theoretical foundation of the entire dissertation. First, I introduce four specific design concepts: service design, transformation design and empowerment in design. Second, I discuss the current understanding of elderly care and why and how we should rethink it. Finally, I explain what the 'good old days' are with the help of a case study from China: filial piety.

2.1. Understanding design and its evolution

Design used to be understood as a professional skill that operates only in specific areas, such as graphic design, product design, fashion design or service design (Meyer & Norman, 2020; Raijmakers et al., 2012). In this understanding of the term, the focus is on the outcome. However, design has grown to become a research field of its own. Under this lens, design can be understood as a research method that helps document the process of designing, with all the stakeholders involved in that process (Findeli et al., 2008; Frayling, 1993; Simon, 1969). Because of this shift, there are now theoretical terms related to design that need unpacking, such as service design, transformation design (Burns et al., 2006), and others. In the current study, two different perspectives have been critical: one focusing on appearance (outcome) and the other on performance (process).

The evolution of design from strictly practical concerns into a field of research is something I have observed not just in my personal experience, but is a phenomenon that has been confirmed by several scholars. Simon (1969) was one of the first to propose that design should be understood as an academic subject matter. Archer and Cross made a push to give design more legitimacy as an academic field, which came at a time when there was an increasing number of scholars using the term 'design research' (Collins, 2004; Reeves, 2006) or 'design research through practice' (Koskinen et al., 2011). The intention of the argumentations above from different scholars was to claim that design is as valid a field of enquiry as the sciences and humanities. This is why Nelson and Stolterman (2014) called design a 'third culture', here seeking to position design in relation to the sciences and humanities while emphasising its specificities. Although there has currently been some hesitation when it comes to widely using terms such as 'design science', researchers seem to have settled on the concept from Frayling (1993): research *through* design. This term has been derived from two methodological methods—research *for* design and research *about* design. Research *for* design is related to design practice and aims to gain applied knowledge, whereas research *about* design examines design scientifically to produce theoretical knowledge (Findeli et al., 2008). Yet the term research *through* design combines research *about* design (theoretical rigour) and research *for* design (practical relevance). This means that research *through* design is based on pragmatism (when all research methods can be used for problem-solving), not positivism (when the methods of natural science are appropriated for social enquiry; Fendt & Kaminska-Labbé, 2011; Ritchie et al., 2013). As a result, as long as insights are useful for solving practical problems, they are welcome in the design process. Based on the understanding, research *through* design can also be called 'practice-based research' (Mäkelä & Routarinne, 2007), 'project-grounded research' (Joost et al., 2016), 'constructive design research' (Koskinen et al., 2011) or 'action research in design' (Järvinen, 2005). After proposing the concept of research through design,

Flusser (2013) further defined design as a science that bridges the gap between 'hard' science (i.e., quantifiable technology or functionality-oriented sciences) and 'soft' science (i.e., aesthetic or artistic science). This definition corresponds well with Archer and Cross's understanding. From an epistemological view, we know that the nature of science aims for the truth and that the nature of the humanities aims for the real. The nature of design is different to them, Nelson and Stolterman (2014) defined it as the *ideal* that seeks to change the existing situation into a preferred one, as Simon (1988) suggested.

Now, design is being gradually accepted as a field of research by designers themselves. At the same time, design thinking, by which I mean the designer's way of thinking (Archer, 1981), is also commonly adopted by different professionals, such as engineers, social workers, policymakers and so forth. This is because design thinking integrates convergent thinking (systematic analysis) and divergent thinking (synthetic analysis), allowing it to be able to efficiently handle wicked problems (Rittel & Webber, 1973).

One good example of design thinking is the double diamond model (Design Council, 2021) that I also adopted and redrew in Article IV. The double diamond model consists of two rhombuses: the first diamond focuses on the problem-defining process, which is a task-assigning phase. In this phase, design thinking starts by understanding the challenge in wider terms before then exploring the problem (divergent thinking), defining the main focus and undertaking the task of problem-solving (convergent thinking). The second diamond is dedicated to the problem-solving process, which takes place during the design-creation phase. In this phase, design thinking departs from the main focus it has defined by the first diamond and then embraces all possibilities (divergent thinking) to create the best suitable solution. Then, designers must put forward a prototype and test the design solution in a small environment (convergent thinking) until it is ready for delivery.

Design thinking includes three components: people (all stakeholders should be invited as codesigners), space (design thinking can be applied at the locations where events or problems happen, not just at the design studio) and process (design thinking follows the approach of problem-solving). In the current study, the people were the elderly, service providers and elderly's family members or friends; the space was where elderly care services interacted; and the process was how the 'good old days' could be translated from the elderly's past life to their current lives. In applying design thinking, Mueller-Roterberg (2018) noted that there are three key components: empathy to understand the needs of the users and other participants; multidisciplinary thinking to encourage participants to contribute their insights in the working space; and prototype to evaluate the design process and the proposed solution's efficiency.

In English, design is both a noun and verb. As a noun, it means 'intention', 'plan' and 'aim', definitions that are connected to the process of thinking, while the verb

is synonymous with 'drafting', 'deciding' and 'fashioning', all of which are actions linked to doing (Flusser, 2013, p. 17). However, in everyday language, design almost exclusively refers to the design outcomes, but, in the present study, my aim has been using the term to its full semantic potential. In the following sections, I introduce two important design concepts in relation to the study: service design and transformation. Although I have used additional design concepts, such as participatory design and social innovation in the four articles, I predominantly focus on service design in the present dissertation. First, I have kept this focus because service design is participatory by definition (Saad-Sulonen et al., 2020), while social innovation borrows tools from service design (Manzini, 2015). Second, service design is the central concept in the present study, even if the four published articles and two projects have slightly different foci. Therefore, I focus on the overarching concept of service design and its transformative characteristics in the current thesis.

2.1.1 Service design

Following the evolution of design into a research field, service design has gained traction as an important term in the field of design. However, the tenets of the concept still puzzle many people, mostly because they are confused by the 'service' part. Conventionally, design professionals have usually identified themselves based on their end-products (Findeli et al., 2008), for instance, product design, architecture design or fashion design. Therefore, if we change the sequence of 'service design' to 'designing services', then 'services' can be seen as the object of design activities (Sangiorgi & Junginger, 2015; Sun, 2020). However, what kind of services do we mean here? The difference between product design and service design can be seen in the dichotomy of 'hard' versus 'soft' design. To be more specific, 'hard' design is tangible and can be physically stored, whereas 'soft' design is immaterial and cannot be owned, as Diagram 7 shows. In the latter case, users can only experience the services but cannot store them. This is also why services are sometimes looked at as product–service systems (Guidat et al., 2014), sometimes as complex interfaces (Sangiorgi, 2009) or even as interaction design (Holmlid, 2007). Another example can help us understand the difference between product design and service design. People buy iPhones not just to hold in their hands, but also for their user-friendly interface service. Lockwood (2010) defined the main difference between these two types of design productions: 'hard' design is generally about the object, whereas 'soft' design is about the user's experience.

Product Design	**Servcie Design**
- Produced	- Performed
- Mateiral	- Immaterial
- Tangible	- Intangible
- Can be stored	- Can't be stored
- Usually without/for clients	- Interaction with clients
- Consumption after production	- Consumption
- Defects in manufacuring	- Mistakes in behaviour

Diagram 6: *The difference between 'hard' (product) design and 'soft' (service) design (my diagram based on Lockwood's understanding of hard and soft design productions)*

This emphasises the fact that the core of service design is experience, not about the products themselves (please refer to Diagram 6). This is the reason why the present study of elderly care focuses on the value of the elderly's 'good old days' experiences rather than product design. However, the experiences in the current study do not only refer to those of the elderly, but also to those of others (e.g., service providers, etc.). This means that the experiences of service design contain two different parts: the one who receives services and the one who provides services. This is why the UK Design Council claimed that service design is about usefulness, usability, desirability, efficiency and effectiveness (Mager, 2009; Stickdorn et al., 2011). All of these terms involve a hierarchy of experiences (please refer to Diagram 7) based on three different layers of priority for the user. Usefulness, usability and desirability are tied to the service user perspective, while efficiency and effectiveness arise from the service provider's perspective (Moritz, 2005). More precisely, usefulness is about functionality and fulfilling the user's needs, like 'I find this helpful'; usability refers to the experience of accessibility, like 'I find it easy to handle'; and desirability refers to the experience of pleasure, like 'I love using it'. Simultaneously, effectiveness refers to the experience of 'it works', and efficiency indicates the experience of 'it works really well'. Thus, we can see service design is about creating experiences, which I say is the first tenet of service design.
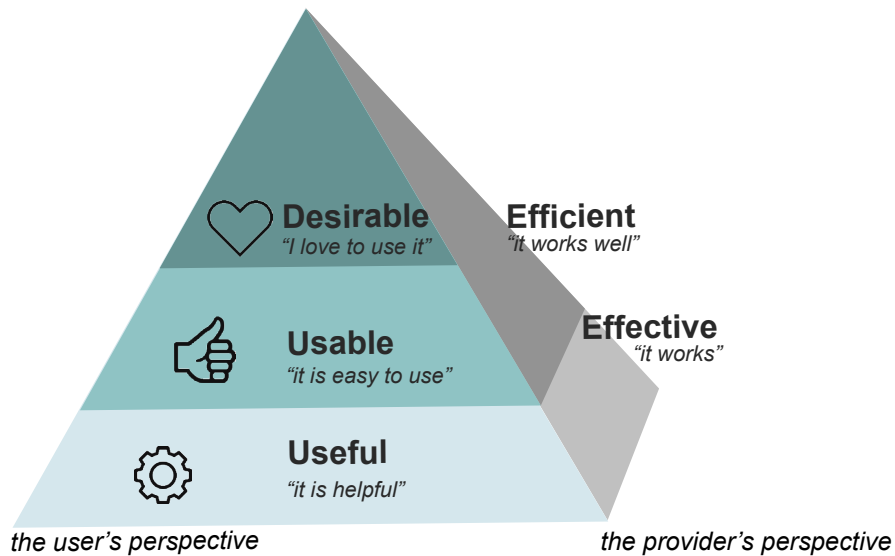
Diagram 7: *The experience hierarchy**
(My diagram is based on the hierarchy of user experience; Nickpour & Dong, 2011)

Because experience is at the core of service design, its success depends on asking for the user's opinion and their understanding of their reality (Muratovski, 2016, p. 14), as well as finding out about their talents and conscious needs (Miettinen & Koivisto, 2009, p. 64). To solicit information from them, service design must rely on the concept of participation during the design process; this is another important tenet of service design.

Participation was envisioned as an approach to help democratise innovation by shifting the power dynamic between the decision-makers and the employee who works on the front line. It was initially used in Scandinavia in the 1970s before it reached other parts of the world. The goal was to make the process of workspace design accessible to the trade unions and their members because they needed to work closely with managers and technical designers to understand the intricacies of the new technologies with which they were working (Dust & Jonsdatter, 2007, p. 291). Now, it has become a commonly used collaborative and methodological approach in the design process (Sanders & Stappers, 2008) between the researcher and participant (Harrington et al., 2019). In the present study of elderly care, participation contains multiple people, such as the design researchers, the elderly, the care providers and the managers of elderly care organisations.

Although participation stems from social sciences, it has broad applications (Lane, 1995). Nowadays, it has become a commonly used collaborative and methodological approach in the design process (Sanders & Stappers, 2008). Although the concept of participation stems from the social sciences, it has broad applications (Lane,

1995). Nowadays, participation has become a commonly used collaborative and methodological approach in the design process (Sanders & Stappers, 2008). However, to be effective in the design field specifically, participation must follow two conditions: 1) the design should be a decision-making process, and 2) all participants should be democratically participating in the design process, regardless of their backgrounds. Steen (2013) defined service design as a participatory 'process in which actors from different disciplines share their knowledge, experience and practices [...] to create shared understanding [...] to achieve the common objective: the new product to be designed' (p. 16). Trischler et al. (2018) also explained that participation aims to form a level of cooperation with all stakeholders (including designers, researchers, managers and others) during the creative design process and then design products, services or systems. Morelli (2015) gave an even more accessible definition: service design is a design process of collective creation in which the participants are driven *by* and *with* instead of *for* communities.

In the present study, I see participation as an important strategy in carrying out service design. Because of its significance in service design, some scholars have used the term participatory design (or codesign) to refer to service design. Sometimes, these terms are interchangeable in the design field. In any case, the most important aspect is that 'the person who will eventually be served through the design process is given the position of "expert of his/her experience", and plays a large role in knowledge, idea generation and concept development' (Sanders & Stappers, 2008, p. 12) because they understand their own living and working situations and are qualified to play significant roles in concept development and idea generation (Sangiorgi, 2013). At the same time, a professional designer who used to play the expert role now only acts as a codesigner because they are in charge of creative thinking (i.e., visualisation, conducting creative processes, finding missing information, etc.) and providing the integrated skills that can quickly prototype the best-fit solution while soliciting input from other parties (Dust & Jonsdatter, 2007, p. 291). In the current research, designers and design researchers do not know what happened in the elderly's past. More precisely, we designers and design researchers are not able to know what the elderly's 'good old days' are without their participation, and of course, we would not understand why their 'good old days' are so important to them either. Thus, the participation of the elderly is a core concept in elderly care service design.

Going back to the question proposed at the beginning of this section—why service design confuses so many people—one of the reasons for this is that most definitions are based on interpreting *how* to design services rather than describing *what* these services are about. For instance, the following are two definitions from the book, *This is Service Design Thinking* (Stickdorn et al., 2011, 30–32):

> *Service design is a design specialism that helps develop and deliver great services. Service design projects improve factors like ease of use, satisfaction, loyalty and*

efficiency right across areas such as environments, communications and pro-
ducts—and not forgetting the people who deliver the service. (by Engine service
design)

Service design is an emerging field focused on the creation of well thought through
experiences using a combination of intangible and tangible mediums. It provides
numerous benefits to the end-user experience when applied to sectors such as
retail, banking, transportation, and healthcare. (by The Copenhagen Institute
of Interaction Design)

Those definitions show that, nowadays, service design goes beyond services as
products, now being more about strategy. This is why Sangiorgi (2011, p. 26) has
pointed out that today's service design is not seen as the object of design but rather
more as the means of supporting the emergence of a more collaborative, sustainable
and creative society and economy. Stickdorn (2011, p. 34) emphasised the five
principles of service design as a strategy: it should be 1) user centred (all services
should be experienced through the user's perspective), 2) cocreative (all stakeholders
should participate in the service design process), 3) make use of sequencing (the
service should be conceived of a sequence of interrelated actions), 4) provide
evidence (intangible services should be given physical form) and 5) be holistic (the
entire environment of the service has to be taken into account). In the current study,
I view service design both as a design *object* and design *approach*. For instance, in
the Bo-Ai project, elderly care was primarily defined as a service (design object).
However, during the design phase of that project, I also employed service design
as a strategy with which to plan the entire design process, such as by inviting all
participants to join me in defining their problems and the design solutions that
would address them.

After discussing the relevance of service design towards elderly care, I think
it is worth providing a short introduction of how service design is accepted in
organisational and educational institutions as an important concept in the design
field. Over the past few decades, the Design Council in the UK, Frog Design in
Germany and the IDEO firm in the USA have adopted service design (e.g., rapid
prototype, scenario prototyping, contextual inquiry, etc.) to provide support in their
process of problem-solving (Dust & Jonsdatter, 2007, p. 291). With the value of
service design emerging, service design has been quickly introduced into the business
field, such as in marketing and management, to create more fulfilling experiences for
customers using a product (Kuosa & Koskinen, 2012, p. 19). For example, Carnegie
Mellon University includes service design in its business school curriculum (Irwin,
2015). However, gradually, service design has also become recognised by scholars as
a full-fledged discipline in design academies. For instance, in the 1990s, Politecnico
di Milano, was one of the initial institutions that moved into this emerging field,

here focusing on three directions of service design: investigations into the nature of services and of service design as a field; investigations into product–service systems; and investigations into social innovation and sustainability (Gong, 2010; Sangiorgi, 2010). Afterwards, in 1991, the Köln International School of Design (KISD) in Germany launched the world's first master's programme in service design (Moritz, 2005). In 2004, Köln International School of Design, Carnegie Mellon University, Politecnico di Milano, Linköpings Universitet and Domus Academy kickstarted the Service Design Net to bring together service design academics and professionals from different countries. In 2009, the world's first doctoral programme of culture-based service design was established at Lapland University.

2.1.2   *Design for transformation*

I have explained how design has evolved from design as appearance (i.e., focusing on forms) to design as performance (i.e., focusing on the process). In the context of the present study—elderly care—I brought service design as an example and claimed that service design is not only a form-oriented design, but also a process-oriented design approach. I also mentioned that these two understandings of service design are deeply involved in my research. For instance, the Bo-Ai project focused on creating a suitable service (as an outcome) for the elderly, while the Jin-Ding project used service design as a strategy to inquire about the meaning towards the elderly's 'good old days'. However, there is another important notion also widely entangled with my study: transformation in design.

Simon (1988) stated that design should aim at changing the current situation to the preferred one. Coming from an upper philosophical point of view, this declaration argues that design is a study concerning how things ought to differ from the natural sciences, which focuses on how things are. However, there is another understanding that was hidden in the discussion, as Nelson (1987) pointed out: change is a consequence of a design's cause and intention. According to Nelson and Stolterman's theory of the hierarchy of change in the design field, the top layer of their hierarchy of change is 'change is [about making] differences' (2014, p. 20). The other three layers of their theory are as follows: a change of difference is process; a change of process is evolution; and a change of evolution is design. To respond to these multiple types of changes, based on his research into the behaviour of past civilisations, Joseph Campbell (1968) discovered four types of strategies from the perspective of social change. Nelson and Stolterman (2014, p. 20) summarised them as a 1) 'return' to the good old days; 2) 'hang-on-to' the present; 3) 'reach' for a utopia; and 4) radically 'transform' the existing. Nelson and Stolterman further concluded that the only successful way to recreate opportunities to experience the past is by adopting design wisdom, which leads to transformational change.

Hence, I say that transformation is the essence of design. Transformation means taking one thing (material, views, experiences, processes, etc.) and turning it into

another, for instance, reshaping forms or structures while, most importantly, doing so without a loss of substance (Schmid, 2007, p. 405). Along this point, transformation involves two different substances in the process of transforming: the transformation of material (form versus material) and the transformation of content (form versus content) (2007, p. 405). To have a better understanding of these two different substances in the design, I will provide an example from a digital design. We used to purchase products (i.e., the material substance) through a person-to-person method, and all data of purchasing, such as the products' prices, sizes, purchasing date, and so on (i.e., the content substance), were recorded on the sellers' account books. Nowadays, everything can be done through digital platforms, and all big data can be reordered automatically by companies like Amazon, eBay or Alibaba. The difference is that the purchasing process has changed from personal exchange to digital touchpoints, and the data are recorded from physical to virtualised forms. However, the most important aspect of this transformation is that people's lifestyles and behaviours have changed a lot since digital platforms appeared because of convenience, efficiency and transparency. A more recent example is that, during the COVID-19 pandemic, many people started working from home instead of going to the office. This is becoming the new normal in the working culture. These cases provide evidence that design for transformation goes beyond shape, changing from product design to service design for individual users; instead, it attempts to reshape existing norms and expectations to change people's behaviours.

From the cases above, transformation in design is more focused on changing common people's behaviours rather than individuals and on tackling important social, economic and climate changing issues, not solving individual problems. This is also why the British Design Council proposed a design strategy—transformation design—in their RED paper in 2004 (Burns et al., 2006). Generally speaking, the traditional design work usually happens either in the studio or laboratory, which remains at a distance from the place where the work will be enacted. And normally, there is a fixed time to come up with a design solution to a specific problem. However, real social and economic contingencies, for example, the Covid-19 pandemic, can affect the design work in more ways than one. Thus, design for transformation (design) require agile responses on site and cannot be simply handled from the comfort of the design studio. This is why Beucker (2015) stated design for transformation should be accepted as a context- and situation-sensitive approach aimed at facilitating piecemeal change that ensures connectivity for social interaction and further development.

Obviously, transformation is an approach to design rather than a product of design. Jonas et al. (2016, p. 13) clarified that transformation design is a placement (a site for performing the transforming action), not a category (not one more piece of design outcome on the list). Here, some scholars have used the term transformation design, like Burns et al. (2006) in their RED paper, to express

transformation as a new type of design approach. Doing so is fine, but I prefer to use a simple phrase—the transformation in design or design for transformation— because it can avoid misunderstanding, just like the concept of service design that has been explained above. To successfully implement transformation in the design process, we have to make sure to abide by its four core principles. First, because design for transformation explicitly focuses on dealing with social problems (Jonas et al., 2016), people must be placed at the heart of the design process. This is why Sommer and Welzer (2015) said that transformation design makes changes from a socio-ecological perspective. Second, transformation as an approach should adopt some techniques and concepts from the traditional design toolbox, like design thinking and service design, because they enable us to capitalise on different ideas, knowledge and insights in the transformation design process (Burns et al., 2006). Third, transformation in design should also create a fundamental change (Burns et al., 2006) in the behaviours of people, organisations' systems or even cultures, instead of changing an individual appearance and solving a specific problem. A useful metaphor to understand this concept is to compare Western medicine with traditional Chinese medicine: Western medicine focuses on the disease, tending to focus on localised symptoms, whereas Chinese medicine focuses on the whole body (Tsuei, 1978). Fourth, transformation as a design approach should build capacity, not dependency (Burns et al., 2006). This means design should not only tackle current issues, but rather, design should be a means of continually responding, adapting and innovating, where possible (2006). This brings to the fore a Chinese proverb from the Chinese philosopher Lao Tze (l. c. 500 BCE, also known as Laozi), who said that, if you give a man a fish, you will feed him once; if you take a man fishing, you will feed him for a week; yet if you teach a man to fish, he will never be hungry.

In addition to all four principles, designers must be aware of the importance of empowerment in the transforming process of design. From a linguistic perspective, empowerment is about giving a group of people more freedom or rights. However, as a social term originating from American community psychology, empowerment can be understood as a practical approach to a resource-oriented intervention (Ertner et al., 2010) that is related to the degree of autonomy and self-determination of all participants who are part of the decision-making process (Rappaport, 2002). This means that all involved individuals, groups or communities can take control of their own circumstances, exercise their power and achieve their own goals (Adam, 2008). This is also why the elderly and service providers in the Bo-Ai project had to take on an active role instead of being passive users who were merely witnessing the design process. This gave the vulnerable elderly and service providers who live and work at the Bo-Ai home opportunities to help solve the issues they face in their living and work environments. As Correia and Yusop (2008) said, validation of opinions and experiences leads to feelings of empowerment.

One thing we must be careful of is understanding empowerment. At some point, empowerment is quite similar to participation, as explained in section 2.1.1. However, empowerment is more related to the users' (in my study's context) knowledge and self-autonomy than to their roles as representatives for different interests(Granath et al., 1996). Holcombe gave a good explanation of the differences between participation and empowerment:

> *Participation and empowerment are inseparably linked, they are different but they depend on each other to give meaning and purpose. Participation represents action, or being part of an action such as a decision-making process. Empowerment represents sharing control, the entitlement and the ability to participate, to influence decisions, as on the allocation of resources.* (1995, p. 17)

As seen in the Bo-Ai project, the elderly and service providers do not simply express their opinions about the design process, but instead, they take the initiative to influence the whole process of decision-making to enable self-autonomy. To actively apply the concept of user empowerment into the practice of design, Ertner et al. (2010) identified five categories of empowerment, which was done by reviewing 21 different papers; this helped them develop a broader understanding of the role of empowerment in participatory design practices. The first category is the concrete improvement of the living conditions of a specific demographic group, who are usually perceived as vulnerable and excluded from specific domains, like the elderly. The second category is direct democracy, which enables citizens to participate democratically and create a collective voice, hence gaining direct influence over different matters. The third category is the user's position, which means that empowerment can strengthen the user's position on behalf of all users as active actors in the participatory design process. The fourth category articulates how empowerment can reinforce the researcher's abilities to negotiate access to participatory design practices. The fifth category is the reflexive practice, which can help expose the design practice to a reflexive analysis of how discursive conditions shape the design process and results.

In recent years, some scholars have emphasised the transformative characteristic of service design and coined the term transformative service. It is a relatively new area, but it demonstrates the value of transformation in design study. Sangiorgi (2011) explained that transformative service should keep inviting citizens as passive users and codesigners to produce accessible, usable and equitable design solutions, but the most important task of transformation service is asking for 'reflexivity' from the designer's perspective. In the present study of elderly care, for example, when applied to the elderly, empowerment not only means they can become codesigners, but more importantly, it also means they can contribute their understanding, knowledge and values to the design process. To be more specific, in the Bo-Ai project, the elderly

participated in collecting data about what 'good old days' they wished to return to and how this could play a role in sharing their interpretation of why the 'good old days' were important to them. In my fourth publication, the double diamond model was used to illustrate how the 'good old days' can empower the elderly to become active participants in designing desirable care services.

2.2. Rethinking elderly care

In relation to elderly care, the elderly are the particular subject, and good care is what the elderly want to have. Going off of this, another consideration here is how to provide good care for the elderly.

Regarding modern elderly care, there are three important theoretical concepts that need to be mentioned: *ageing in place*, *active ageing* and *ageing in culture*. *Ageing in place* means living in one's own home or community, which enables the elderly to maintain their independence, autonomy and an active connection to social support, including friends and family (Davey et al., 2004, p. 133). The most important part of ageing in place is to provide a sense of connection to the surroundings where the elderly used to live because this brings feelings of security and familiarity (Wiles et al., 2012), which improves the elderly's well-being. First coined in 1990, *active ageing* (Foster & Walker, 2015) is another concept that encourages the elderly to participate in society and that states this competence and knowledge are items that the elderly already possess (Daatland, 2005). 'Active' here does not refer to being physically active, but rather, it highlights the fact that the elderly should continue participating in social, economic, cultural, spiritual and civic affairs (WHO, 2002, p. 12). *Ageing in culture* is a new concept proposed by Fung (2013) that emphasises the value of indigenous culture when trying to improve the elderly's well-being. Fung (2013) compared different cultural contexts between Western (mostly North America and Germany) and Eastern cultures (mostly Chinese) in areas including age-related personality and/or social relationships, finding that the need for ageing in culture is more obvious in Chinese society than in North American and German societies because interpersonal relatedness and interdependence are more in demand among Chinese than North Americans (Fung, 2013, p. 372).

After reviewing all three concepts of ageing in place, active ageing and ageing in culture, elderly care can be seen as actually involving where the elderly reside, who they interact with and what they believe in. This is more complex than simply seeing elderly care as a mere serving relationship. For instance, Coxon and Bremner (2019) defined care as having two forms: common care (lowercase form) and complex Care (capitalised form). Common care refers to our daily life health needs, such as healthcare, aged care, home care and so forth, and it views the ones being cared for as patients. Researchers have criticised this type of caretaking, arguing that it

follows banal rituals (2019) that primarily focus on physical well-being, hence lacking 'attitudes of care' (Ziebland, 2012). Complex Care takes a human being's perspective and considers the intricacies of physiological and psychological issues. To better visualise this concept, I introduce Coxon's model (2016), the four dimensions of care, which consists of *experiencing* (senses, affects, cognitions and contexts); *living* (consciousness, awareness, response and ecology); *projecting* (self, others and world); and *timing* (past, present and future). *Experiencing* emphasises that care is about the experience. Care should pay attention to the daily life activities or events that can bring about a sense of belonging and security to the elderly. *Living* refers to the philosophical term 'being'. Care is about being, as in how the individual lives in the world consciously and ecologically. *Projecting* refers to how the individual interacts with themself (with appreciation or depreciation) and others (e.g., people, animals and things) in the immediate world. *Timing* emphasises that care should take a holistic view from the past to the present and even help in predicting the future. From this view, elderly care is much more complex than the traditional way of seeing it because it comprises physical, mental, social, spatial and spiritual aspects. The traditional way of elderly care merely focuses on the first three aspects. As Rasmussen et al. (2014) mentioned, care is 'not only responsive to the individual's physical abilities and needs, but also to the individual's social and psychological abilities, preferences and lifestyle' (p. 25).

In current practice, although designers are not usually trained from a caring perspective (Jones, 2013), they are taught to use a human perspective. The human-centred design approach requires designers to take a user perspective to design products, systems or services that are physically, perceptually, cognitively and emotionally intuitive (Giacomin, 2014). Coxon and Bremner (2019) also pointed out that care should be structured around the human perspective, as the 'four dimensions of care' model shows. In the current study, I argue for the necessity of adopting the 'good old days' in elderly care as a way to propose an integrated model of care that caters to all four aspects delineated by Coxon (2016).

2.3. Understanding the 'good old days'

The 'good old days' is the key theoretical concept in the present dissertation. Here, I give a simple interpretation: 'old' refers to the past and 'days' to the experiences or memories from that past. As a concept, 'good' is related to ethics, the branch of philosophy that centres on morality. In everyday life, however, 'good' is a relative notion that very much depends on an individual's judgement. When applied to elderly care, 'good' refers to living in good conditions that can bring about happiness, growth or well-being. However, we must be aware that the idea of 'good old days' can be very diverse and take on different meanings for different people. For instance,

growing up in the countryside can be perceived as an idyllic experience by some, but it can be synonymous with narrow-mindedness by those who are different because of their professional aspirations or sexual orientation. In all, in the current study, as long as the memory of past experiences brings the older individuals positive feelings, I consider them as being part of their 'good old days'.

In popular culture, the term 'good old days' is strongly related to people's daily lives in the past and how they idealise—or sometimes ironically criticise—moments that are now out of reach. There are several songs emphasising this, such as Leroy Shield's theme song for a comedic series of short films on poor American children called *Our Gang* (1930), an album entitled *In the Good Old Days (When Times Were Bad)* by Dolly Parton from 1969 and the latest one from Macklemore and Kesha (the album *Gemini*) in 2017. There is also a film about British vaudevillians directed by Roy William Neill in 1939 and a book on Holocaust perpetrators published by Ernst Klee in 1991 and sarcastically titled *Schöne Zeiten* (*The Good Old Days* in its English translation). The earlier example by Roy William harken back to the Great Depression in the 1930s and document a time of deprivation where life's simpler pleasures brought relief and meaning. The later examples show more range, going from biting irony against the Nazi regime (Klee) to the innocuousness of one's high school days and early music-making (Macklemore). What this shows is that the term does not have a steady definition in pop culture and can take on different meanings depending on the viewpoint of the author/artist.

At the same time, the 'good old days' has been used in academia and in the professional world. Its various meanings include reminiscence (Cook, 1998), sentimentality (Stoyanova et al., 2017) and, in its most popular form, nostalgia (Nilsson et al., 2003). As an example of the latter, there is the paper that inspired my research of the 'good old days': 'The Good Old Days: Observations on Nostalgia and Its Role in Consumer Behaviour'. In this article, Havlena and Holak (1991) found that advertisements evoking feelings of nostalgia can create a longing to return home and influence the consumers' purchase decisions. Morewedge (n.d.) clarified that this is because the 'good old days' contain important implications for optimal business practices, such as evocation (Davis, 1979), mood (Belk, 1990), preference (Holbrook & Schindler, 1991), emotional state (Stern, 1992) or an affective reaction (Jobson & Wickham-Jones, 2010). From here, we can see that the term 'good old days' has long been in circulation in commercial practices, such as marketing, advertising and branding.

Comparatively speaking, the 'good old days' were adopted in service design more recently, which may partially be because service design is a relatively new field compared with advertisement. However, the concept of 'good old days' has strong potential in the area of elderly care because of its positive influence. For example, Addis et al. (2010) made a comparative study of the 'good old days' with young adults (ages 19–31) and older adults (ages 60–81); they found that older adults

have a strong reaction to remembering the good times and are much better than young adults at associating their experiences with positive memories. In another comparative study conducted by Charles et al. (2003), the researchers selected three different groups (younger, middle-aged and older adults) and asked them to recall three different types of memories (positive, negative and neutral stimuli). The results also showed that older adults were more interested in positive experiences than other groups, indicating that self-related memories, such as personal identity and self-confidence, can create positive emotions (Singer et al., 2007). Because of its positive impact, the American Psychological Association used the 'good old days' as a type of therapy to improve the elderly's psychological well-being (VandenBos, 2007).

In design practice, the researchers from the Caring Senior Service organisation in the USA have concluded that there are nine reasons why the 'good old days' can benefit seniors: preserving family history, helping improve their quality of life, reducing symptoms of depression, promoting physical health, working through unresolved conflicts, eliminating boredom, improving communication skills, reducing stress and enhancing self-esteem (Cemental, n.d.). Another example comes from Shanghai, China, in which two thematic rooms based on the 'good old days' concept were launched by the Huipu-Mingchuan senior home in 2020. One was a retro Shanghai room that reproduced the Shanghai lifestyle in the 1930s; another one was a military-themed room where the linens and curtains evoked the green of Chinese military uniforms. After launching those rooms, they were immediately booked (Gu, 2020). In Japan, the caregivers at the tea room of Terado's group homes—where, here, group home refers to a service that offers residents the care they truly need in a small group (Gräsel et al., 2003)—adopted *Ikebana* (the Japanese art of flower arrangement) and included tea ceremonies to help rehabilitate elderly residents with dementia (Kuwahara & Morimoto, 2015). As Hubbell (2015) mentioned, translating the past memories of people's lives into ongoing life events can help people perceive life's meaning and purpose in the present.

However, the experiences from the 'good old days' do not always provide good memories; sometimes, they do the opposite. For instance, nostalgia is combined with two etyma: *nostos,* meaning to return home, and *algos*, referring to grief or bitter-sweetness (Havlena & Holak, 1991). However, I take the word in its more 'sweet' part and have deliberately put aside its 'bitter' component in the current research. This is why I use the inclusive term 'good old days' instead of nostalgia or other terms to indicate that 'the past makes the present meaningful' (Routledge et al., 2011, p. 638). In the following section, I introduce one of the core components of the 'good old days' in a Chinese context—filial piety—which I explored in great detail in Article II, which focused on the Bo-Ai project.

2.4 Filial piety, an embodiment of the 'good old days'

Theoretically, in the Chinese tradition, filial piety refers to a range of behavioural prescriptions, including showing respect, being obedient and honouring or promoting the public prestige of one's parents and ancestors (Cheng & Chan, 2006). In the Chinese language, filial piety is pronounced as *Xiao* (孝)and is composed of two meaningful parts in accordance with Chinese calligraphy. The top part is 老, meaning seniors or elders. The bottom part is 子, meaning children and youth (Pan et al., 2020). Therefore, *Xiao* (孝) is the young (at the bottom) underpinning the elderly (at the top). The basic understanding of *Xiao*, or filial piety culture, is that the young should do good by honouring their seniors, including in their language, gestures, appreciation and so forth. This behavioural imperative is deeply rooted in Confucian morality. Mencius (the most successful disciples of Confucius, 372–289 BCE or 385–303 BCE) further promoted his master's filial culture, bringing in broader implications such as 老吾老, 以及人之老, which can be translated as 'we should honour the elderly in other families as we would honour those in our own' (Mencius, c. 300 BCE). The culture of filial piety has influenced East Asian countries, such as Korea ('*hyo*' in Korean), Japan ('*oyakōkō*' in Japanese), Taiwan and Singapore and has become the standard way of taking care of elderly people (Sung, 1990).

Within the culture of filial piety, food management (including food preparation, serving and dining behaviours) is one of the most important occasions for performing rituals of filial culture. To better understand this, first, it is important to stress that the norm for Chinese families used to be to live together with three or four generations under the same roof (Pan et al., 2020). Second, while dining, there are many opportunities through body language and verbal language to show one's respect to their parents and grandparents. For instance, using both hands to deliver the meals and drinks to the elderly is perceived as expressing the young's respect. Third, in the interactions involved between offering food and receiving it, the elderly can gain appreciation and well-being from their younger family members, which will lead to improved self-esteem (Cheng & Chan, 2006). Here, food not only is about nutrition, but it also has a social function. Ma (2015) has shown that food has symbolic significance within filial culture. For instance, noodles are long, representing health and longevity. Glutinous rice balls mean that the family stays together. All dishes must be served at a specific time and must be placed in the middle of the table to share. Spoons and chopsticks also have their own proper place to avoid impoliteness to the elderly. At the same time, according to filial piety virtue and food culture, the elderly are at the centre of the entire food arrangement and performance. Therefore, elderly people must have access to the central seats first and are served the best food.

Yet industrialisation and urbanisation have brought some changes to the traditional Chinese family structure, making it so that filial piety is no longer

practised as intensely as it was in the past (Chan & Lim, 2004). Some young people criticise this elderly-dominated filial culture, seeing it as less considerate of other people's feelings. However, filial piety is still very much part of the 'good old days' for the elderly who reside in societies with a strong Confucian influence such as China, Japan and Korea. This means this concept is worth exploring to determine how best to help the elderly who are yearning to relive their 'good old days' again and reconnect with the culture they experienced in their youth.

2.5   The conclusion of my theoretical framework
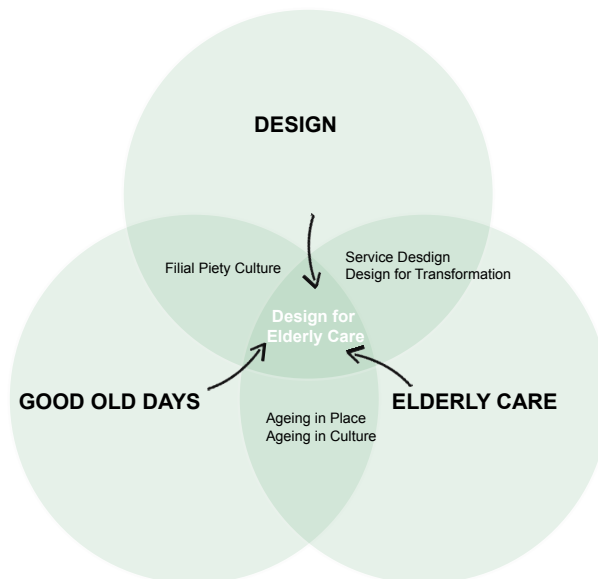
Diagram 8: *The relationship among the three components and the gap/focus of this study*

I have gathered the most useful points of the literature review in Diagram 8 and compared them with Diagram 5, which is found at the beginning of this chapter. Diagram 5 indicates where each theory or concept comes from, while Diagram 8 illustrates how all the theoretical concepts I have mentioned interact with each other. Service design is located between the circles of *design* and *elderly care*, demonstrating that service design is employed as the overarching design strategy in designing services for the elderly. In the service design process, transformation plays an important role because transforming is not only about reshaping the 'good old days' experience into a service experience, but it is also about redefining a new elderly care culture. Ageing in place and ageing in culture are located between the circles of *elderly care* and their *'good old days'*, and in positioning itself in this way, it can provide

some of the latest developments in elderly care. Both point out the importance that the elderly should live with their surroundings, environments and/or culture with which they are familiar. Thus, it grants the relevance and legitimacy between elderly care and their 'good old days'. In addition, I have focused on a classic Chinese culture for respecting the elderly—filial piety—between the circles of *design* and the *'good old days'*. The reason for this is because, first, I use filial piety as the main resource in the Bo-Ai project, which is an important representative of the 'good old days' experiences in the present study; second, it demonstrates the core substance of the 'good old days' in elderly care through the transformative design process, as I have explained above (i.e., section 2.1.2), that design for transformation should not lose its substance. This substance is filial piety and, more specifically, is well-being. By now, I have introduced each theory involved in my study and explained how these theories have come together to influence the study. Finally, looking at the centre of these three overlapping theories, the main focus of my entire research appears: designing for elderly care through the 'good old days'.

3. Research Design

The research design consists of several layers. First, I have used pragmatism as my main philosophical approach and for putting forward the research proposition. Second, qualitative research and ethnography were used as the guiding approaches for data collection. Finally, the methods I have used for data collection and data analysis include observation, interviews and group discussions, as well as thematic analysis and comparative analysis. Please refer to Diagram 9 below for a summary.

Methods of data collection/analysis	Research Strategy	Research Strategy	Research Philosophy
Observation Interview Group Discussion Thematic Analysis Comparative Analysis	Design Ethnography	Qualitative Research	Pragmatism

Diagram 9: *My research design*

3.1. Philosophical approach

In the current dissertation, my main philosophical approach has relied on pragmatism. Dewey called pragmatism 'instrumentalism', which is the version of pragmatism perceived as a tool for dealing with life's problems. (Eldridge, 1998). The key figures of pragmatism before Dewey were the classical pragmatists, like Charles Peirce and William James, who both coined the term pragmatism and focused on debating the legitimacy of its theory, meaning and pragmatic truth (Stanford Encyclopedia of Philosophy, 2021). For instance, Peirce (1992) emphasised the element of practical

effects, while James (1975) was more interested in utility and practicality. However, in the current study, I have used John Dewey's theory, which makes use of real-life social work to define pragmatism. According to his interpretation, pragmatism should be directed at problem-solving rather than studying the scientific truth. Nowadays, Dewey's pragmatism is commonly accepted as a theoretical tool that can be used in design research to question the relationship between practice and research (Margolin, 2010), validating the legitimacy of practice-based contributions to knowledge (Archer, 1981) and helping towards design-based knowledge production (Dixon, 2019; Gray & Malins, 2016). This is why Saunders and Tosey (2013) have argued that the significance of pragmatism lies in finding solutions to problems.

In practice, through the lens of pragmatism, an abductive approach is commonly adopted to find a solution towards problems. Abductive reasoning can be simply understood as a combination of inductive reasoning (from specific toward general) and deductive reasoning (from general toward specific) because 'it is more important to choose the appropriate methods to address specific research questions than to align with a specific epistemological stance' (Ormston et al., 2014, p. 22). This means that if practitioners believe that an abductive approach is useful for their work, then it is the right approach (Saunders & Tosey, 2013). More particularly, this approach can be helpful in the early stages of design research when there is still not enough information (Lu & Liu, 2012). As Barbour (2013) said, there is 'no shame' in practising this hybrid approach in research.

Overall, pragmatism and abductive reasoning remind design researchers that their methodological strategy should be flexible during the research process. Instead, it encourages design researchers to base their choices on the relevance of these methods (Kelly & Cordeiro, 2020). This is why I have chosen to use pragmatism and abductive reasoning.

3.2. Methodological approach and research strategy

The methodological positioning of the present research has been based on qualitative research and design ethnography. Design ethnography has provided me with a strong method for data collection and data analysis. To have an explicit understanding of my research strategy, those three methods will be explained in the following sections.

3.2.1 Qualitative research

Qualitative research is difficult to clearly define because it always includes a wide range of approaches and methods from different disciplines. I have looked at qualitative research from a social science perspective to further discuss its definition and objectives. Denzin and Lincoln (2011) proposed that qualitative research is a set of interpretive practices including 'field notes, interview, conversation, photographs,

recordings and memos to self ...' (p. 11). Creswell (2013) stated that 'qualitative research begins with assumptions and the use of interpretive/theoretical frameworks that inform the study of research problems addressing the meaning individuals or groups ascribe to a social or human problem' (p. 66). Leedy and Ormrod (2010) said that qualitative research can help describe, interpret, verify or evaluate some complicated problems. Overall, qualitative research aims to provide an in-depth understanding of a real-life phenomenon by understanding how participants make sense of their social and material circumstances (Ormston et al., 2014).

In practice, qualitative research also offers useful data collection and data analysis methods to gain a detailed and rich understanding of a given problem. Phoenix (2018) said that qualitative research allows us 'to learn about the voices of marginalised persons, understand the thoughts and processes that people engage within their everyday lives, and potentially develop theory(s)' (p. 81). At the same time, qualitative research also gives researchers flexibility to invent their own methods; this means choosing and assembling the best-fit approaches and methods to satisfy one's own research purposes. Those two advantages of qualitative research provide design researchers with a great chance to strengthen their research approach. Because the current study has aimed to understand the elderly and their needs, its methodology relied heavily on qualitative research.

3.2.2 Design ethnography

Ethnography is a description of people, here referring to the study of human beings, their lived experiences and their cultural practices (Crouch & Pearce, 2013). The primary efforts of ethnographers focus on cultural questions, which is done by examining the behaviour, language or cultural artefacts particular to the group being studied (Creswell, 2013). As a research methodology, ethnography is rooted in the social sciences, such as anthropology and sociology; it first became a proper academic discipline in the late nineteenth century (Van Dijk, 2010). Bronisław Malinowski, one of the key figures of modern social anthropology, recommended that ethnographers should take the point of view of their subjects rather than imposing their own understanding or prejudice upon them (Van Dijk, 2010). Ethnography has since been introduced into various disciplines. For instance, in the middle of the twentieth century, the University of Chicago pioneered ethnography as a method to learn about relevant groups of people and their culture in preparation for urban planning (Plowman, 2003, p. 30). Some important figures in modern ethnography include Max Weber, Emile Durkheim, Claude Lévi-Strauss, Clifford Geertz and Madeline Mead (Van Dijk, 2010). More recently, ethnography has been implemented into the design field, as in industrial and service design.

Design ethnography is qualitative ethnographic research set within a design context (Van Dijk, 2010). As discussed in section 3.1, design borrows from and integrates diverse methods and approaches from other disciplines on its own because

it is a pragmatic practice. Malinowski's main insight—that ethnographers should demonstrate empathy towards the people they study and not impose their prejudice upon them—can be translated into design terms. That is, design ethnography aims to facilitate an empathic conversation with users, clients and other experts and stakeholders in the design process. Van Dijk (2010) gave a good explanation that helps cement the validity of that approach:

> Design ethnography aims to understand the future users of a design, such as a certain service. It is a structured process for going into depth on the everyday lives and experiences of the people a design is for. The aim is to enable the design team to identify with these people; to build up an empathic understanding of their practices and routines, and what they care about. This allows the team to work from the perspective of these users on new designs for relevant slices of their daily lives. Designers use this understanding to work on idea generation, concepts development and implementations. (p. 108)

Additionally, Plowman (2003) stated that design ethnography offers both a descriptive and interpretive approach in the research and design processes, as follows:

> They are designed to capture as much detail as possible, crucial to testing and developing theories; they are interpretive because the ethnographer must determine the significance of the detail in the relatively narrow scope she observes without necessarily gathering broad or statistical information. (p. 32).

Accordingly, ethnography does not just help designers find the details of the users' daily life, including habits, routine and preferences, but it can also lead them to find meaning in those habits and preferences (Ladner, 2015) because, in real design cases, designers need to understand what the user needs and why they have such needs. With these rich insights in mind, designers can design user-friendly and/or human-centred designs or services.

In practice, design ethnography offers a set of data collection methods. Designers can have a comprehensive and in-depth understanding of the interaction between users and products in their daily lives (Wasson, 2000). For instance, in my own practice for data collection, I used observation and semistructured interviews in the Bo-Ai and Jin-Ding projects, but I only made use of group discussions in the Jin-Ding project. The project I used for comparative purposes and borrowed data from—Life 2.0—also relied on interview and note-taking methods to help the designers familiarise themselves with the problems posed by elderly care in design (please refer to Table 1 in section 3.3). Usually, these methods can be viewed as front-end design research for promoting and developing suitable design proposals (Rodgers & Anusas, 2008). According to the definition by Plowman (2003), these

methods help designers find more rigour in solving problems. Overall, design ethnography delivers the results that inform and inspire design processes (Van Dijk, 2010) while enabling designers to create more compelling solutions (Rønning, n.d.). The following sections will explain how I made use of design ethnography in the data collection and data analysis.

3.2.3   *Comparative study*

A comparative study (or comparative research) is a research strategy commonly used in the social sciences and that has the goal of comparing different countries or cultures. With globalisation, technological advances and other factors, comparative study has gained much attention in research on cross-national platforms (Azarian, 2011). It includes two different types of comparative study: descriptive comparative and normative comparison (Bukhari, 2011). A descriptive comparative is a type of research that describes and focuses on answering the how, what, when and where questions rather than the why (Formplus, n.d.), which is the question that forms the basis of the current research. Normative comparison is needed when the aim is not just to detect and explain the problems, but also to improve the present state of the object or develop similar objects in the future (2011). In contrast with noncomparative work, a comparative study attempts to reach conclusions beyond individual cases and explain the differences and similarities between the objects of analysis, as well as between their contextual conditions (Esser & Vliegenthart, 2017).

In the present dissertation, I pursued a comparative study as part of the interdisciplinary methodology I used to compare two different projects: one from China (the Bo-Ai project, which was my own) and another one from Europe (the Life 2.0 project, which was led by CORDIS). This comparison aimed to extend the understanding of how the past experiences of the elderly can impact the design process. According to the classification made by Bukhari (2011) regarding comparative studies, the current dissertation would be called 'descriptive comparative' because I chose two projects based on different cultures—different nations and different solutions—focusing on the where (geographically), who (demographically), what (solutions) and how (the elderly participated in the process).

3.3   Methods for data collection

Because my main research approach was based on design ethnography, I have combined various research methods—such as observation, semistructured interviews and group discussion—that have helped me address the complex nature of elderly care. Pragmatists have convincingly proposed that there is no shame in choosing the 'best-fit' methods to a specific research question because using multiple

data collection methods could diminish the limitations of one data set and give the research more credibility (Saldana et al., 2011). For instance, in ethnography research, observation is a helpful method to record the participants' routines and activities in a real-life context; however, it cannot fully explain the reasons behind each participant's routines and activities. Thus, it would help to interview them and/or organise a group discussion to amplify the observational data (Heyl, 2001). That is why I adopted observation, interview and group discussion as my main methods for data collection in my Bo-Ai and Jin-Ding projects (please refer to Table 1).

Table 1: *The methods that each project adopted in practice*

The projects	Observation	Interview	Group discussion
the Bo-Ai	240 mins/5 persons	360 mins/21 persons	
the Jin-Ding		600 mins/25 persons	180 mins/4 persons
Life 2.0			

3.3.1 Observation

Observation is a key method for research in the social realm, especially in ethnographic research, because ethnography is about understanding communities and their cultural norms, beliefs and behaviours. In using observation, Nicholls et al. (2014) suggested two things to be careful about. First, we should be aware of what is taking place in situ and should keep observing conditions as close to real life as possible. This means that we, as researchers, should not intervene in the observation settings. Otherwise, the data cannot be entirely true. Second, researchers should also find the best way to let the participants who are being observed become fully engaged because their behaviours and interactions provide us with a rich understanding of their daily life routines and the difficulties they experience in their lives. For example, in the Bo-Ai project, the observation phase I led was divided into two parts: outside and inside observation. Outside observation meant that we kept a certain distance between ourselves and the older adults and their caregivers so as to understand their daily routines and interactive experiences without interference. Inside observation refers to when we volunteered as service providers to assist in food delivery. We did so to have closer interactions with the elderly.

To obtain the best data for the elderly's dining routines at the Bo-Ai home, I set up my observation at lunch and dinner time between 11:30 a.m. and 12:30 p.m. and between 5:30 p.m. and 6:30 p.m., respectively. This was the peak time regarding the interactions between the older adults and caregivers. The total observation time was approximately 240 minutes: 120 min of outside observation and 120 min of inside observation. After our observation, we found that the main problem with the Bo-Ai home food services was the lack of communication between the elderly

and caregivers—whether on a physical or verbal level—as well as a lack of family atmosphere (please refer to Photo 3).

Photo 3: *Observation of the dining environment and service at Bo-Ai senior home*

In addition, during the observation phase, we did not shoot any video; instead, we used a small camera or smartphones because we thought video making could have interfered with the elderly's natural and real-life routines. Sometimes, we simply drew what we saw with pens or pencils if taking photos was not allowed. After the observation phase, we quickly exchanged and shared the resources of our observation so as not to forget what we had gathered.

3.3.2   Semistructured interviews

Although the observation approach played a significant role in the current research, observation itself cannot be used alone to provide all the information needed. Therefore, interview and observation are normally paired together as complementary methods by ethnographers, 'with observations providing the wide-angle viewpoint that is then given more focus through interviews' (Crouch & Pearce, 2012, p. 92). In the present research, I used semistructured interview in both the Bo-Ai and Jin-Ding projects (please see Articles I and IV).

In the first project, the interviews were conducted at the closed senior care community—Bo-Ai—for residents aged 70 and above (see Photo 4) with 21 older

adults. I have prepared three main research questions, and each can be expanded into different subquestions. Question one: What are the main problems of the current care services at the Bo-Ai home in your personal opinion? Why? Question one aimed to define the main problem in current elderly care services. Question two: What are the top three things that you personally think elderly care (services) should be combined with? Why? Question two aimed to explore how to solve the problem. Question three: The Bo-Ai senior home asked me to make some changes. Are you willing to join us in effecting those changes? Why or why not? Question three aimed to look for potential participatory designers (please refer to Appendix 1).

In contrast, the second project was in an open community—Jin-Ding—for residents aged 60 to 70. A total of 25 interviews (with 13 females and 12 males) were conducted. The goal of the Jin-Ding project was to define what kind of 'good old days' experiences the elderly yearned to go back to. Three leading questions were prepared in advance, such as the following: 1) Would you like to share one to three good experiences or memories with us? 2) What is your favourite 'good old days' experience? Why is it so important for you? How did this experience influence your life until now? 3) If the 'good old days' experiences you just told us about could occur again, what do you expect would happen? If your 'good old days' experiences could be adopted as part of elderly care, what suggestions do you want to give us (please refer to Appendix 2)?

Additionally, semi-interviews were always conducted by three researchers with one elder participant. One researcher posed the interview questions, one took notes, and the other acted as an assistant, here observing and reminding the one who posed the interview questions, just in case there were important questions on the interview agenda that had yet to be asked. All interviews were documented either on paper or by voice recorder, and they were also double-checked by the three interviewers to make sure the information was correctly documented in full for the later analysis process.

Photo 4: *The interview during lunchtime at the Bo-Ai senior home*

3.3.3 *Focus group discussion*

A focus group discussion is a qualitative research method in which a small group of participants are gathered to discuss a specific topic and, hence, generate data. It is usually composed of the moderator and focus groups (Wong, 2008). The moderator asks the focus group participants from similar backgrounds or experiences specific questions, or they give the participants the discussion topics. The main characteristic of focus group discussion is 'the interaction between the moderator and the group participants and interaction between group members. The objective is to give the researcher an understanding of the participant's perspective on the topic in discussion' (Wong, 2008, p. 256). In practice, the group discussion should be carefully planned so as to create a friendly environment and atmosphere that allows the participants feel comfortable and free to talk and give their honest opinions (Guide, 2016).

In the current study, I organised a group discussion after conducting the Jin-Ding interviews. With the results of the Jin-Ding interviews, I found that the elderly's 'good old days' experiences could be summed up into three themes: being with nature, being with family and community and being creative. However, those three themes were not discussed in depth. Thus, the aim of the group discussion was to explore the meaning of the elderly's past experiences in their retired life; more precisely, the focus was on the three themes I defined after the Jin-Ding interview. Four older people were invited and grouped together with three researchers as one discussion

group. The senior participants were encouraged to tell their stories or express their experiences. One researcher led the topic and encouraged the seniors to begin the discussion while the other two researchers captured the core meanings for recording using papers and sticky notes (Pan, Mikkonen, & Sarantou, 2020). The entire group discussion comprised three different phases. The first one was an introduction that informed all participants of the process and purpose of this group discussion while also letting them become familiar with each other by creating a comfortable atmosphere and environment (please see Photo 2). In the second phase, they were assigned to different groups. The discussion started by introducing the results of the Jin-Ding interview and the three themes of the 'good old days' before being led to very simple questions, such as the following: What do you think about 'being with nature' in your retired life? What does being with nature mean to you? Are there any examples from your own experience? After discussing 'being with nature', we turned the discussion to 'being with family and community' and 'being creative'. Thanks to our thorough preparation, the group discussion procedure went very smoothly. In this section, all older participants were free to speak and express their experiences from the past with different tools, such as smartphones, drawing and even body language performance. For instance, in Photo 5, the senior participant (Ms Lee, 72 years old, in the middle) was excitedly showing the research team members photos of her homeland and family members who still lived there. During the group discussion, if the responses were related to any of the three predefined themes, then they were quickly recorded by the researcher in charge of recording the discussion process and classified their answers into the sticky notes in different colours: being with nature in red, being with family is in yellow or being creative is in green, with the rest of the topics in blue, as Photo 6 shows. In the last section, all results (like sticky notes) were posted on the process wall (please refer to Photo 6) that was prepared in advance. For example, we pinned the four oldest participants' profiles to the very left side with their basic information, like ages, former careers and the regions they came from. Then, the researchers in each team had to present and explain what they learned from the individual theme they discussed with the older participants. The older participants could interrupt the researchers' presentation at any time if the researcher's understanding was incorrect. For instance, in Photo 6, a researcher (Ms Yu) was presenting her team's discussion results. In Photo 7, the senior participants and researchers jointly discussed the results after the focus group discussion.

Photo 5: *The senior participant using her smartphone to share her stories*

Photo 6: *The process wall was prepared to document the results in each step of the research process*

Photo 7: *A joint presentation between the elder participants and researchers after the Jin-Ding project*

3.3.4 Note-taking

Note-taking is one of the most important practices and methods when carrying out academic research. However, this process largely depends on the researcher's working memory (Baddeley, 2007). When taking notes while doing research or leading a discussion, only a short-term memory buffer is needed to acquire, select and understand the continuous flow of incoming new information (Piolat et al., 2005). In doing so, note-takers need to comprehend and write down the incoming information, yet before doing this, they also need to filter and organise their sources. Most importantly, they must document and integrate the freshly processed information (Makany et al., 2009). Therefore, by taking notes, researchers can record the essence of the information, hence freeing their minds from recalling everything (Makany et al., 2009). There are different types of note-taking; however, in the current research, I mainly used three: diary notes, sticky notes and flip chart (or whiteboard) notes.

The diary notes were used to conduct the outdoor discussions or interviews. Flip chart notes were used for the second note-taking practice, but we sometimes used a whiteboard instead, depending on equipment availability. Sticky notes were widely used in the group discussion research in the Jin-Ding project (please refer to Photos 6 and 7); this helped us record all incoming information and keep the discussion flow moving along quickly.

3.4   Secondary data sources

I have explained the methods for the collection of primary data, but the present dissertation also made use of desktop research and secondary data sources. For example, because the Life 2.0 project (Blat, 2011; Cantù et al., 2012; Kälviäinen & Morelli, 2013; Morelli, 2015a, 2015b) was adopted for a comparative study, I conducted a desktop search and found a collection of papers on it. From these papers, I further selected five (Table 2) that I closely reviewed and studied, as shown in Table 2.

Table 2: *A collection of the Life 2.0 project*

Papers	Authors	Date	Content
Developing Services to Support Elderly Everyday Interaction	Kälviäinen M. & Morelli N.	2013	This paper described the design process of creating digital social interaction services for the elderly. It also elaborated on how the elderly participated in the cocreation process.
Life 2.0: Geographical Positioning Services to Support Independent Living and Social Interaction of Elderly People	Cantù D., Costa F., & Rizzo F.	2012	Although these two papers were concise, they provided a clear structure for the Life 2.0 project and explained how the ethnography strategy was conducted.
Cross-cultural Aspects of ICT Use by Older People: Preliminary Results of a Four-country Ethnographic Study	Blat, J., Sayago, S., Kälviäinen, M., Morelli, N., & Rizzo, F.	2011	
Challenges in Designing and Scaling up Community Services	Morelli, N.	2015	These two papers by Morelli summed up his experiences with the Life 2.0 project, in which he was involved. Both papers explained how the ICT solutions can help support the independent living of the elderly, suggesting how those solutions should be scaled up.
Designing for Few and Scaling up for Many	Morelli, N.	2015	

The Life 2.0 project was funded by the European Commission and ran from 2010 to 2013; its goal was to support independent living and social interaction of older adults (CORDIS, 2010). It involved five European countries: Denmark, Finland, Italy, Spain and Bulgaria. The Life 2.0 project 'started from the assumption that older adults are a resource rather than a problem and is developing services that support the deployment of such resources for the benefit of their local community' (Kälviäinen & Morelli, 2013, p. 43). Some papers were published in different journals and conferences during and after the project, and the five papers in Table

2 are part of these. The reason why I chose the Life 2.0 project to compare with the Bo-Ai project that I conducted in China was because I wanted to know how the 'good old days' can be transposed into different design solutions in different social contexts and, more importantly, to reveal what kind of societal impact the 'good old days' can have.

3.5   Methods for data analysis

The analysis was not about adhering to any single correct approach or a set of correct techniques; it was flexible, reflexive (Coffey & Atkinson, 1996) or playful (Gray & Malins, 2016). The present dissertation used three different analytical methods—thematic analysis, content analysis and comparative analysis—to evaluate and analyse the data collected in each article.

3.5.1   Thematic analysis

Thematic analysis is one of the most widely used analytical methods in the social sciences. It typically involves inspecting sorted data and combining elements to yield categories with meaning (Spencer et al., 2014, p. 204). For instance, from interviews, group discussion transcripts or observation, researchers can find out people's views, opinions, experiences, values or understandings (Caulfield, 2019). Furthermore, through thematic analysis, the researcher can identify those topics that are progressively integrated into higher-order themes. Most importantly, thematic analysis can help researchers respond to the research question (Spencer et al., 2014).

In the current study, I made use of thematic analysis in two of my projects and in the overall analysis of my study (please refer to Appendixes 1 and 2). In the Bo-Ai project, thematic analysis helped me define one of the main elderly care problems at the Bo-Ai home: the food servicing and dining atmosphere. Thus, creating new food services became the main task at the Bo-Ai home. In the Jin-Ding project, I also used thematic analysis. Based on the data collected by semistructured interviews in the Jin-Ding community, the thematic analysis method helped generate three main themes for what kind of 'good old days' the elderly wished to return to: being with nature, being with community and being creative (please refer to Appendix 2). Appendix 2 shows how the data of the Jin-Ding project were analysed. On the right side of Appendix 2, it demonstrates all the raw data collected from the interviewee. Based on the similarity of the content of the raw data, the raw data were put into different subthemes because of different contents, such as farming and gardening, neighbourhood or handcrafts. After that, the subthemes were being further analysed before the final themes were generated. For instance, the subthemes of handcrafts, previous jobs, singing and dancing were grouped into being creative. The other two themes were being with nature and being with community.

3.5.2 Content analysis

Besides the thematical analysis, I also used content analysis in the final stages of my study. I not only reviewed all the raw data collected from the interview and group discussions during the Bo-Ai and the Jin-Ding projects and my four papers published on different journeys and presented at the conferences, but I also reinspected the design process and design work. The amount of content is enormous, including large amounts of textual data, photos, some audio and even diagrams created for my publications. Thus, I have adopted content analysis as a technique to determine the presence of certain words, themes and concepts within some given qualitative data (Krippendorff, 2018). In other words, content analysis has helped me find the meaning of the 'good old days' for the elderly, hence clarifying the relationship between the raw data and design work, as well as the concepts (e.g., service design, transformation) I used in my research. For instance, through content analysis, I was able to discover that the 'good old days' cannot only help build up the connections between the elderly with other people and things, but it can also satisfy the multiple needs of the elderly. I give a further explanation in Chapter 4. Overall, the content analysis provided me with a powerful tool to make the data I collected more meaningful.

3.5.3 Comparative analysis

In my study, the comparative analysis method was one of two data analysis methods used. I compared the Bo-Ai project that I conducted and Life 2.0, which, through comparison, helped me take different cultural and societal perspectives to evaluate how the elderly's past experiences impacted their daily lives. According to Coccia and Benati's (2018) definition, a comparative study is an investigation that is used analyse and evaluate a phenomenon and/or facts among different areas, subjects and/or objects to detect similarities and/or differences. A comparative study can be seen as a fundamental tool of analysis with a long history, and it is applied to quantitative and qualitative research alike. The current study utilised the latter type, that is, qualitative comparative analysis, which is a way of studying the configuration of cases (Olsen, n.d.); this method is used in comparative research and when using case study research methods.

   As explained above, I used a comparative study in my discussions of the Bo-Ai project and Life 2.0 project, and the variables were the different countries and different groups of people. After analysing these two projects, I found that both projects valued the elderly's past experiences, which were found to be a method that could empower the elderly to play a codesigner role in the design process. The difference of these two studies is that the elderly from the different cultures valued their own types of past experiences. For instance, in the Bo-Ai project, the Chinese elderly perceived their filial piety culture and interdependence of family members. However, in the Life 2.0 project, the European elderly liked independent living

by themselves. Because of the varying preferences of the elderly, different design solutions were created. As Collier (1993) proposed, a comparative study can have a central role in concept formation by bringing similarities and contrasts among cases into focus. The Bo-Ai project came up with physical food services as a solution, while the Life 2.0 project generated a digital solution for the elderly's socialising and independent living.

The results of the comparative analysis were published in my second and third articles. After these two comparative studies, I had a better understanding of the 'good old days' in elderly care and also in design practice, which encouraged me to enter the Jing-Ding community for my next study.

3.6   Participants in the research

In the current dissertation, there were two groups of participants: the older participants group involved in interviews and group discussions and the research member group. All participants were based in the city of Zhuhai, China, and joined in two individual projects: the Bo-Ai and Jin-Ding projects. In the following sections, I give a specific profile of these two participant groups. The group of older participants totalled 54—21 participated as interviewees, while four seniors participated in the design practice in the Bo-Ai project, and 25 seniors participated as interviewees in the Jin-Ding project, while four seniors joined group discussion. The research group was composed of 46 BA and MA students as volunteer researchers and five teachers from the design school of BNUZ, China, and Brand University, Hamburg, Germany.

3.6.1   The role of older participants in data collection

In the Bo-Ai project, there were 25 participants in total. Here, 21 Bo-Ai seniors joined our interviews while four seniors (one female and three males) participated in the food services design process. The average age of the Bo-Ai seniors was 71. In the Jin-Ding project, there were 29 senior participants in total. Here, 25 joined the interviews while four (two males and two females) joined in the group discussion. Because the Jin-Ding project was conducted in an open community, the senior participants were relatively younger than the Bo-Ai seniors, with the average age of the Jin-Ding participants being about 64. As a note, according to Chinese law, the age of retirement is 55 years old for females and 60 years old for males, which is why I chose people in this age group as participants.

3.6.2   The role of collaborative data collection (with students and teachers)

Compared with the senior participants, the research team members were diverse. Some were students while some were colleagues. We all came from the design school

of BNUZ. The research team members totalled 48 people. More precisely, in the Bo-Ai project, there were three undergraduate students who worked together with me, plus one service provider and one manager from the Bo-Ai home. In the Jin-Ding project, 30 third-year undergraduate students helped me conduct the interviews; six second-year MA students (four females and two males) and six colleagues of mine (one female and five males) participated in the group discussion.

To conduct data collection, I also prepared different equipment like a camera, audio recording and some papers and pens in advance.

3.7   Ethical considerations

Ethics is always one of the most important matters researchers should consider. This is especially the case when the study involves human participants and ethnographic research. When I conducted this study, I did so as an academic researcher from Lapland University, and I followed the ethical principles of the Finnish Advisory Board on Research Integrity (TENK, 2019). During the research phase, I had to consider three important ethical issues. First, I had to obtain the consent of all participants and obtain the permission of the elderly care institute. In my case, this meant securing the approval of all participants, like the elderly from the Bo-Ai home and Jin-Ding community, the caregivers and managers from the Bo-Ai home and the service design team from BNUZ, who were informed of the purpose of my research and agreed to take part in the project. Second, the 'good old days' are not only about knowing the elderly's past experiences, but also about respecting their cultural and political beliefs. Filial culture (see section 2.3) is seen as one of the moral cornerstones of traditional Chinese society. For instance, the elderly are pleased to have some youth around them, which brings them the feeling that they are being cared for or loved, here according to the Chinese culture (Yu & Zhang, 2007). This is also why the senior participants did not feel uncomfortable when being with three researchers during the group discussion (please refer to Photo 5). This differs from other cultures. This also means that youth's obligation is to honour and take care of the elderly. However, this can stifle a young individual's personal development. Third, there were political and historical matters I had to consider. Many of the elderly I interviewed had experienced the Mao regime, and some were still very proud of their service. As a researcher, it is not my right to judge them and their past experiences. My job was to avoid 'damage and harm to research participants, communities or other subjects of research' (TENK, 2019, p. 50).

With each project, careful consideration of ethical issues was of the utmost importance because it was not only about data collection, data evaluation and data storage, but also about the researcher's attitude, which here includes integrity, credibility and sincerity. The ethical principles of research with human participants

and ethical review highlight that the participants' trust is the starting point of doing research (TENK, 2019), and 'trust can only be retained if the human dignity and rights of the people participating in the research are respected' (TENK, 2019, p. 9). Thus, all the data I collected through the Bo-Ai home and Jin-Ding project were kept private until publication. All participants' names were either made into pseudonyms or only involved their last name whenever allowed by the participants themselves. One participant's family member in the Bo-Ai home did not agree to use their family name in any publication. All the information was deleted because of this. Other photos used for the current dissertation and my four articles received the consent of the participants in the photos.

In the current study, my role was not only to be a researcher aiming to understand the relationship between elderly care and the 'good old days' experience, but also to be a designer dealing with specific problems, as I did, for instance, in the Bo-Ai project. In my design work, I clearly knew that I and the participants from the Bo-Ai home (i.e., the elderly and caregivers) were codesigners. My job was only to understand (through participatory observation, semistructured interviews and group discussion) the elderly and their needs, rather than control the design process. As Phillips and Kristiansen (2012) mentioned, the professional designer must give up notions of being in control as researchers (designer as researchers) when in the research process (design as research) and develop the competencies for recognising, organising and responding to the unexpected. Hence, my main job in the Bo-Ai project was to motivate and inspire all codesigners to translate their 'good old days' experiences from the past into their desired form in the present.

4.   Summary of the Findings

As explained in the introduction chapter, the current dissertation is the product of three projects and four individual articles. Because of the word limitations of each article, I did not have the chance to demonstrate all the findings from these respective studies and how they intersected. However, this is possible in the present dissertation. I have reviewed all four publications and, at times, have gone back to the raw data I collected through interviews or focus group discussion of the Bo-Ai and Jin-Ding projects. Based on all the data, I performed a large amount of content analysis to uncover new findings, as Diagram 10 shows.

I first closely studied each article's findings section because these areas had the essential content of each project or study. Then, I extracted the key sentences and words, which guided me in developing the coding for the content analysis. As Diagram 10 shows, each paper's key findings are demonstrated on the left column of the diagram, as highlighted in a light green background, and the keywords (i.e., the codes) are also marked in bold font in each key finding sentence.

After assigning the codes, I went back to each article's research design sections and the related projects to reinspect the research and design process in each project. More specifically, I reinvestigated Article I (i.e., the Bo-Ai project) and Article IV (i.e., the Jin-Ding project) to find any shortcomings in the content analysis. If some were found, I went back to the raw data documents once more to check why they were missing and whether the missing information was supportive of the key findings and codes I extracted. For instance, in Article IV, the three themes (being with nature, being with community and being creative) were obvious because they were the key findings of this paper. However, how these three themes informed the design process and what those three themes meant to each step of the design process were not very clear. Therefore, I went back to all the original transcriptions and photos made from the group discussion of the Jin-Ding project. This is why there are four key findings under Article IV instead of only three defined themes; the fourth finding conveys three important areas of relevance of the 'good old days' in the design process: transformation, participation and experiences. I was able to do this through content analysis, which enabled helped me to better see the content of my study, including textual content and visual and audio content. Third, I further studied all the concepts involved in each of my articles because they encompass the essential and conceptual components of the present study.

At this point, I was better able to pinpoint my findings from the theoretical perspective, and the process especially assisted me in finding the relevance of my

findings regarding the focus of my study. For instance, service design is the core concept in my study because my main research question is how to transform the elderly's 'good old days' into service experiences. According to service design principles, exploring the needs of the user is key in the research phase (Mueller-Roterberg, 2018), while knowing the touch points between the users and services is another key for the design phase (Holmlid, 2007; Wasson, 2000). These two points of service design theory helped me come up with an understanding of what needs the 'good old days' can satisfy when it comes to the elderly in their daily lives and how the 'good old days' can interact with the elderly in elderly care service. Those two components are, respectively, demonstrated on the right column of Diagram 10, as seen in 'the needs' category (i.e., R1–3) and 'the interaction' category (i.e., R4–6).

Along with those theoretical guidelines of service design, I further discovered that the 'good old days' not only can satisfy the elderly's physical, mental and spiritual needs, but also involve self-to-self, self-to-other (people) and self-to-other (creatures) interactions. In fact, the findings in the last category of the right column were also derived from the understanding of service design theories and practical projects involved in the present study; as I explained in the theoretical framework chapter, service design is about transforming the intensive engagement of experiences and involvement of participants.

After the analysis of my first-hand data (i.e., the Bo-Ai and Jin-Ding projects), I also restudied the second-hand data (i.e. Life 2.0 project), especially reviewing my two comparative study articles (i.e., Articles II and III). This part of the analysis provided me with even more reflection to understand how the 'good old days' experiences could be scaled up into larger organisations, such as a community or society, rather than only in a senior home. Wherever the 'good old days' have been applied, the value of the 'good old days' in elderly care service unfolded and generated three different and important finding categories, such as the needs, the interactions and the design practices, as demonstrated on the right side of Diagram 10.

The analytical lines between the left and the right sides of Diagram 10 illustrate the complexity of the findings because the codes overlap and are tangled with each other. In other words, each overall finding on the right side of Diagram 10 is supported by different evidence from articles and/or projects. It is not possible to explain how the overall findings arose independently because they stemmed from a complex interpretation of the different findings of the four articles and three projects. Here, I give two threads of my content analysis approaches: 1) the analysis started from articles→projects→raw data, and 2) the analysis of the articles started from the individual findings section→research design sections→theories.

The left side of Diagram 10 shows each article's focus, including the individual findings for each article with light green background and the code in bold. The right side of Diagram 10 demonstrates the overall findings with different categories and subcategories. The analytical lines in the middle show the connections between them.

The findings of my first article have shown that, when food services integrate the codes and rituals taken from filial culture, they can bring about three positive experiences: participatory experiences, pleasant experiences and profound experiences (L 1, 2 and 3). Participatory experiences were found to have two implications: the 'good old days' can enhance the quality of the interactions between the elderly and other people (R5) in elderly care, and from a design perspective, the elderly's participation in the design process can help professional designers quickly define the problems they face to find a suitable solution (R8), which is also the main topic of my fourth article.

Pleasant experiences mean that the elderly can achieve happiness, appreciation from others and other forms of mental satisfaction (R2) through interacting with other people (R5). Here (R2), the fourth article discussed the connection between the 'good old days' and elderly's mental needs, such as L12, L13 and L14. In contrast, profound experiences were connected with the elderly's spiritual needs (R3), which remained separate from their physical and mental needs. This was because the elderly's profound experiences were tied to their spiritual beliefs, as I demonstrated both in my first and fourth articles.

My second and third articles both used comparison study methods to explore the connection between personal experiences from the past and elderly care design. However, the findings of those articles came from different perspectives. The findings of my second article were more theoretically oriented and focused on analysing the similarities and differences between those two projects. However, the findings of the third article paid greater attention how to implement the 'good old days' in practice while providing concrete guidelines for the improvement of elderly care services. The second article, whose data relied on my own two projects (the Bo-Ai and the Life 2.0), recognised the elderly as valuable codesigners in the design process, arguing for the benefits of participatory design (R8). At the same time, the article also contended that design practice should take cultural differences into consideration because people from different cultural backgrounds have different understandings of their own mental (R2) and spiritual needs (R3). This was also why the findings of the third article emphasised the notion of personalisation (L8), which can distinguish not only between personal (physical, mental and spiritual) needs (R1, R2 and R3), but also cultural differences. Besides personalisation, the findings of the third article have indicated the importance of socialisation, engagement and cultural values (L10) in designing for elderly care. Socialisation refers to the 'self-to-people' interactions (R5); engagement (L9) emphasises the significance of the elderly's participation in the design process (R8); and value (L10) implies that the practice of design should respect diverse cultural values. This is similar to the second article's findings, which showed the importance of paying attention to cultural differences in the design practice.

The findings in each article

Paper I: the elderly care combined with filial culture and food services (as "good old days") provide the elderly different experiences

L1 The food services integrated with filial culture provides the elderly with more chances to interact with each other: **participatory experiences**.

L2 The filial culture provide the elderly more enjoyable moments in food services because it helps the elderly recall their family dining moment: **pleasant experiences.**

L3 Because of a full immergence of the elderly into the filial culture or family-like atmosphere, it helps the elderly meet the spiritual sense-making: profound experiences.

Paper II: in creating elderly care services, we need to know

L4 The elderly is not 'destroyers' or passive users, but co-designers. This is because the elderly know the best of themselves, which empower them to become active **participants** in the design process.

L5 In order to deal with ageing issue, the solutions of elderly care should embrace all possibilities, especially the intervention of **design practice**, such as virtual ICT platforms or physical services solutions.

L6 In order to create human-centred elderly care, designers needs know not only **the needs** of individuals but also **the context** of community as well as **the cultural difference** of nations.

Paper III: Creating elderly care services needs to pay attention to

L7 **Socialisation**: the elder individuals need to be connected with others regardless in person or virtually.

L8 **Personalisation**: the personal needs are always prioritised, including the lifestyles, preferences, cultural differences etc.

L9 **Engagement**: the elderly are always welcome to participate in the decision-making process in creating their own care services.

L10 **Value**: culture value also need to be taken into account because different culture could contain different understanding in solving ageing problem.

L11 **Scalability**: elderly care needs different solutions, which can be implemented regionally, nationally, or even globally.

Paper IV: the themes of the "good old days"

L12 **being with nature**, such as farming, gardening, outdoor activities etc. It can provide the elderly with some physical exercises, releasing stresses, obtaining self-accomplishment etc.

L13 **being with family or neighbours**, also include friends, former colleagues. It helps the elderly to receive the feeling of appreciation, or being connected with each other etc.

L14 **being creative**, such as previous jobs, handcrafts, singing, dancing etc. It can help the elderly to receive the happiness or self-confident feelings.

L15 how the "good old days" inform the design process in creating a better elderly care services.
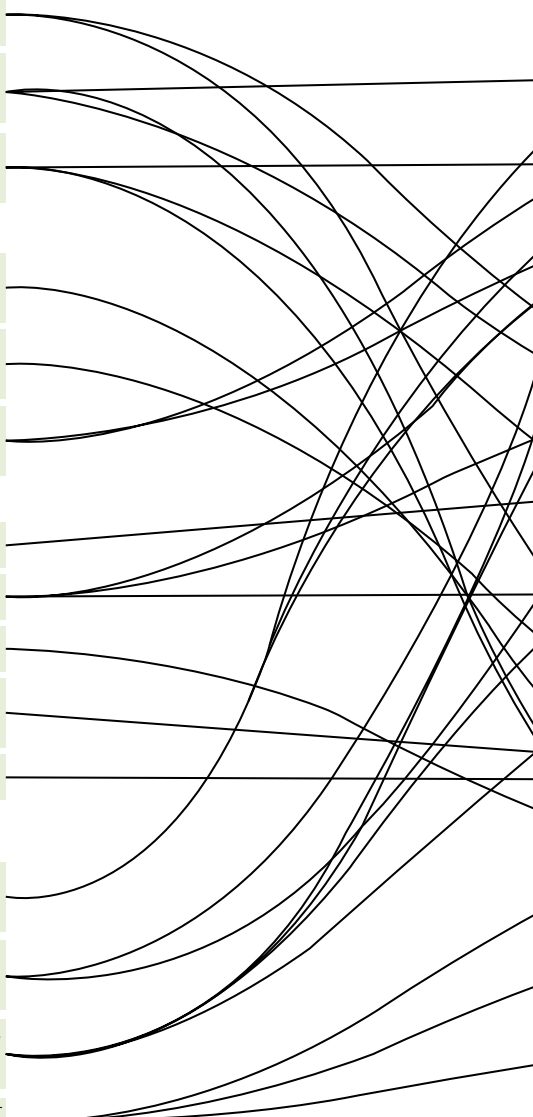
Diagram 10: *the connection of the overall ndings and the indivdual ndings from each article*

The findings across all articles

physical needs — R1

mental needs — R2

spiritual needs — R3

The needs

self2self interaction — R4

self2other people interaction — R5

self2other things interaction — R6

The interactions

transformation — R7

participation — R8

experiences — R9

The design practice
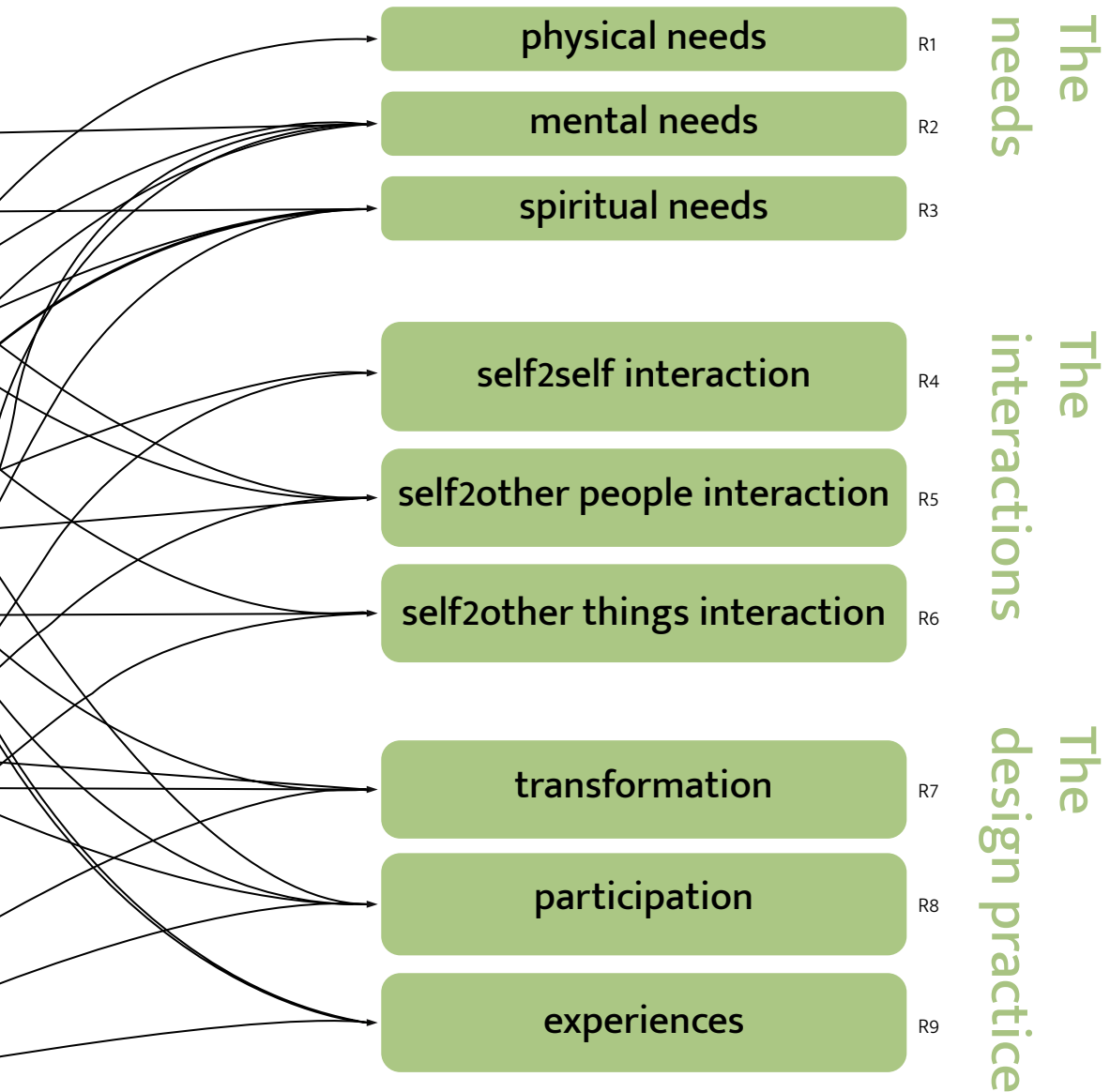
The findings of the fourth article consisted of two parts. The initial finding uncovered what kind of 'good old days' the elderly were willing to recall. I categorised these findings into three themes: being with nature (L12), being with family and neighbours (L13) and being creative (L14). From Diagram 10, 'being with nature' is linked to personal needs on a physical, mental and spiritual level (R1, R2 and R3). 'Being with family and neighbours' (L13) focuses on the interactions between the elderly self and other people (R5), which can also help the elderly achieve higher mental happiness (R2). 'Being creative' (L14) is more complex than the prior two themes. It is because creating something, for example, doing handicraft work, not only can help the elderly engage with physical, mental and spiritual practices (R1, R2 and R3), but it also involves 'self-to-self' interactions (R4), like talking to oneself to solve a problem, or 'self-toother things' interactions (R6), like communicating with nature and spirits in accordance to the elderly's own spiritual beliefs. The second findings of the fourth article focused on the design practice, like how the 'good old days' can enable the elderly to participate in the design process (R8) and how the 'good old days' can help the design process create good elderly care service experiences (R9). This is why 'being creative' has been linked to experience design and participatory design.

After developing the connections between the individual findings of the four articles (on the left of Diagram 10) and the combined findings in the articles and current thesis (on the right of Diagram X), I have drawn three thematic categories under which to classify them. Every three boxes on the right side of Diagram X can be placed in the same category, with R1–3 being grouped into the needs category (what needs can be satisfied by rechannelling the concept of the 'good old days' in elderly care), R4–6 the interactions category (what kinds of interactions the elderly engage with and how they are related to their 'good old days') and R7–9 the design practice category (how the 'good old days' can be used in the design practice for elderly care). These three categories will be explained in more detail in the below three sections. Each category has its own table. However, some data are repeated across different categories because these three categories are very much complementary and interconnected. Together, they form a whole.

4.1 The 'good old days' can fulfil the various needs of the elderly in care

In Table 3, the right-hand side (in green) shows three different needs of the elderly in relation to the 'good old days' in elderly care: their physical needs, mental needs and spiritual needs. In other words, those three different needs represent the periods the elderly wished to go back to. The other columns indicate the methods I used either for data collection or data analysis, while column four provides relevant examples.

On the right side of the table, I list the numbers from Row 1 to Row 8 to provide more clarity.

Table 3: *The various needs of the elderly with their 'good old days'*

The Projects	The Methods	The Data	The Examples	The Findings			
				physical	mental	spiritual	
the Jin-Ding	Interview Group discussion (Research Methods)	being with nature	touching the soil, leaves, fishing, farming etc.	✓		✓	1
		being with family & community	caring for family, maintaining friendships, etc.		✓	✓	2
		being crative	skills, knowledge, habits, etc.	✓	✓	✓	3
the Bo-Ai	Observation interview (Research Methods)	the problem-defining	lack of family atmosphere		✓		4
	Thematic analysis (Analysis Method)	participatory experience	part of the design team		✓		
		pleasant experiences	feel useful		✓		6
		profound experiences	finding their filial piety			✓	7
the Life 2.0	Co-design	designing a ICT digital platform	ICT for independent living and socialising		✓		8

* it is the secondary material, which is for a comparison with the Bo-Ai projectt

When I led the Jin-Ding project in China, I first found three important themes relevant to the 'good old days', which I defined in the fourth article as 'being with nature, being with family and community and being creative'. After further studying these themes, I found that the 'good old days' actually link with three different needs: physical, mental and spiritual. Physical needs refer to what the elderly did physically in the past. For instance, at the beginning of the Jin-Ding project, I interviewed different elderly residents and asked them about their first association with the concept of the 'good old days'. What they did physically was the most commonly mentioned subject, oftentimes in relation to the theme of 'being with nature' (e.g., Row 1), such as fishing, farming, harvesting fruits or vegetables and so forth. Then, they also brought up 'being creative' on a physical level, with handcraft work, cooking and other skills (e.g., Row 3). I also received similar answers throughout the Bo-Ai project (please refer to Article I). For instance, during the time I tested the new food services, I found that all the older participants actively played a role in preparing and cleaning the dining table before and after meals. For them, doing physical activity was seen as a vital need in elderly care. As one male participant said, 'This is not about the food itself; participating in preparing all things makes me feel like I am home with my family members. And interacting with each other makes me feel like I am with friends'.

Yet I also found that the physical activities themselves were not the 'true' needs to which the elderly wished to return. Beyond the need to exercise regularly for physical health purposes, what they truly longed for was the mental benefits of physical activity. This finding was verified in all the projects (the Jin-Ding, the Bo-Ai and

the Life 2.0), as the second column (in green) shows. For instance, in the Jin-Ding project, the theme of 'being with family and community', like cooking for family members, reveals that the elderly wanted to gain appreciation from their family (e.g., Row 2). The theme of 'being creative' was connected to personal confidence and self-achievement, which they could achieve without engaging with other people but by themselves (e.g., Row 3). In the Bo-Ai project, while testing the new food services, I found that the elderly received pleasure from seating arrangements derived from filial culture (e.g., Row 4), as discussed in Article I. In addition, the Life 2.0 project also provided evidence of the importance of catering to the elderly's mental needs in elderly care, here with the goal of promoting independent living for the elderly in European countries. Therefore, independence (e.g., Row 8) was a key mental need of the elderly.

The spiritual needs of the elderly were not as obvious as their physical and mental needs. I found that the need for spirituality was not articulated so explicitly, but rather, it remained implicit and sometimes hidden within the different projects and articles comprising the current dissertation. In the two projects I conducted in China, I found that the elderly still wanted to be immersed in filial piety (e.g., Row 7). For instance, although residing in a senior home like Bo-Ai was not the best choice for some elderly who may not have any children or have children living in a different area, they still believed that filial piety and its code of conduct was something by which they and those surrounding them must abide. In the Jin-Ding project, I concluded that the elderly often used their belief in Taoism to interpret their 'good old days'. For instance, a lady participating in the group discussion used the metaphor of leaves that must go back to the tree's roots in reference to her and other older people. The root of the tree symbolises the 'good old days' of the elderly (e.g., Row 1).

4.2   The 'good old days' include diverse interactions, which can be with oneself, with others and with different creatures

Table 4 is similar to Table 3 in its structure. The right-hand side (in green) still shows the new findings. There are three different interactions including *self to self, person to person* and *person to others*. These interactions refer to the intercommunication or interconnection, in which the 'good old days' motivated the elderly to communicate with others and be more introspective.

Table 4: *Three interactions between the elderly and their 'good old days'*

The Projects	The Methods	The Data	The Examples	The Findings			
				self2self	person2person	person2others	
the Jin-Ding	Interview Group discussion (Research Methods)	being with nature	touching the soil, leaves fall, fishing, farming etc.	✓		✓	1
		being with family and neighbourhood	caring family, maintaining friendship, etc.		✓		2
		being crative	skills, knowledge, habits, etc.	✓	✓		3
the Bo-Ai	Observation interview (Research Methods)	the problem-defining (lack of familiy atmosphere in care)	missing personal attachment, like personal or interpersonal etc.		✓		4
	Thematic analysis (Analysis Method)	participatory experiences	part of the design team		✓		5
		pleasant experiences	feel useful	✓	✓		6
		profound experiences	finding their filial culture			✓	7
the Life 2.0 *	Co-design	designing a ICT digital platform	ICT for independent living and socialising		✓		8

* it is the secondary material, which is for a comparison with the Bo-Ai projectt

From the green area of Table 4, I first found that the *person-to-person* interactions (i.e., the middle column in green) appeared more frequently than the other two types of interaction. As the theme of 'being with family and community' defined in the Jin-Ding project shows, the connections between the elderly and their family members, neighbours, friends and even former colleagues (e.g., Row 2) were consistently mentioned by the elderly during the interviews. In Article IV, I found that maintaining a harmonised person-to-person relationship was one of the most significant interactions for the Chinese elderly, here because of the influence of the Confucian ideal of societal and familial harmony (Li, 2006). Simultaneously, I found the same result in the Bo-Ai project. For instance, the food services I designed were aimed at creating a family atmosphere (e.g., Row 4). The creation of a family atmosphere utilised person-to-person interactions between the elderly and their family members. In cultivating intimate interpersonal interactions, the elderly could occupy themselves in meaningful ways, one being with participatory experiences (e.g., Row 5) and the other with pleasant experiences bringing them joy (e.g., Row 6), as the first article (based on the Bo-Ai project) discussed.

Participatory experiences, as defined in the first article, focused on how filial piety provided opportunities for the elderly to be immersed in an atmosphere that evoked their 'good old days'. Because they were able to participate in community initiatives within the retirement home, the elderly underwent pleasant experiences. At the same time, through the Life 2.0 project that I adopted from European society, I also found the need for *person-to-person* interactions to be shared across nations and societies by all elderly people. The goal of the Life 2.0 project was to create a platform for the European elderly to socialise, mostly by means of person-to-person interactions, hence helping them improve their independent living (e.g., Row 8).

Apart from the person-to-person relationships, I also found two other important interactions: *self to self* and *person to others* (i.e., the first and third columns in

green), both of which were related to the themes of being creative (i.e., Row 3) and being with nature (i.e., Row 1) and that were based on the Jin-Ding project. Self-to-self interactions refer to the intrapersonal aspects of communication. More precisely, these emerged in how the elderly communicated with themselves. These self-to-self interactions can influence personal confidence and help them believe in their competence (Dong & Dong, 2018). For instance, most of the elderly people I interviewed in the Jin-Ding community came from the countryside, where they were used to more rural surroundings. The elderly mentioned that, when they interacted with nature, as with gardening (e.g., Row 1), they felt like they were going back to their past 'good old days'. Besides this, some elderly people found out they were still useful to their community through the use of their personal skills (e.g., Row 3). Overall, I found that this kind of *self-to-self* interaction was very interesting because it was like the past 'self' was communicating with the current 'self' and could comfort the current 'self' through the challenges associated with ageing.

The final type of interaction between the elderly and their 'good old days' was *person to others*. By 'others', I do not mean other people but rather substantial objects (e.g., soil, rocks or trees) and/or the 'supernormal animals' (e.g., pets; Massumi, 2015). As mentioned, many elderly came from the countryside or farming families; they had a strong attachment to nature and animals (e.g., Row 1). That is why many of the elderly I interviewed in the Jin-Ding project mentioned that it was important for them to live next to nature or live in the company of animals. Interestingly, the person-to-others interactions sometimes also touched on the connection between the elderly and their beliefs. This means that the 'others' could be beyond nature or other creatures. For example, in the Bo-Ai project, I strongly acknowledged the importance of filial piety for the elderly. This is because they believed that the elderly should be taken care of respectfully according to the principles of filial culture.

Another example is the metaphor I used in section 4.1 for spiritual needs: the elderly should go back to their 'good old days' as tree leaves go back to the tree's roots. It was quite interesting for me that the elderly I interviewed often used metaphors to interpret their older life. One more piece of evidence was using soup to demonstrate their love for their children, as shown in Article IV. This anecdote shows how a third party can be used to convey the strength of a bond between two people.

4.3 Transformation (design) plays an important role in translating the 'good old days' in elderly care (services)

In this section, the findings concentrate on how the 'good old days' should be applied to the elderly care field at a practical level. Because the focus shifts from theoretical to practical, Table 5 is different compared with Tables 3 and 4 in the way it presents evidence. However, the right side of Table 6 (in green) still shows three

main influencing factors that translate the concept of the 'good old days' in concrete ways in elderly care. These factors are *transformation, experience* and *participation*.

Table 5: *Three factors that elderly care design should pay attention to*

The projects & articles	The relevant theories	The findings	The further findings or discussion	The Findings transformation	experiences	participation	
the Jin-Ding (the article No. 4)	the "good old days", Double Diamond Model	being with nature	positive emotions, releasing stress	✓			1
		being with family & community	attachment, connection, pleasure		✓		2
		being creative	obligation, appreciation, self-accomplishment		✓		3
the Bo-Ai (the article No.1)	participatory design	participatory experience			✓	✓	4
	filial piety culture	pleasant experiences		✓	✓	✓	5
		profound experiences			✓	✓	6
the Life 2.0* (the articles No. 2&3)	participatory design	socialising can improve the independent living		✓	✓	✓	7

* it is the secondary material, which is for a comparison with the Bo-Ai projectt

To begin, the first column (in green) of Table 5 shows the connection between transformation design and elderly care. All three projects provided evidence of that connection, along with the four articles. For instance, the Bo-Ai project transformed filial piety culture from an abstract level into a concrete design decision at the Bo-Ai home (see Article I). This means that the concept of the 'good old days' was key not only to satisfying the desires of the elderly in care, but also to providing the Bo-Ai senior home with a new elderly care service model. Then, the Jin-Ding project explored what kind of 'good old days' the elderly were able to recall outside of their attachment to filial piety (e.g., being with nature, being with family and being creative; e.g., the third column). The findings of filial piety (in Article I) and being with nature, being with family and being creative (in Article IV) demonstrate the true scope of the 'good old days' (please refer to the third column of the Jin-Ding project). Furthermore, these findings also strengthen the importance of the 'good old days' not just for the elderly, but also in elderly care, whether in design or practice. At the same time, Article IV also argued that the concept of the 'good old days' cannot be transposed so readily in elderly care because times have changed: in the past, the elderly used to interact with their own family members, but in the current situation, the elderly might live in an institution like the Bo-Ai home. Thus, the practice of filial piety cannot be applied the same way as it was in the past. This means that the concept of the 'good old days' needs to be reshaped to adapt to the current situation.

I found two important influencing factors, *participation* and *experiences*, that can accelerate the design process, which is transforming the 'good old days' from

the past day life to the current elderly care life. From the second column in green, experiences play an important role in transforming the 'good old days' when applying the concept to the realities of elderly care. More precisely, for example, the Jin-Ding project has shown that the elderly being cared for should engage with family members and develop relationships within their neighbourhood (e.g., Row 2), or the elderly should keep using their skills from their past to continue their creativity (e.g., Row 3). These two experiences—making relationships and keeping mentally and physically active—can motivate the elderly to participate in the design process, that is, the transformative design process, because those experiences of either engaging with other people or keeping up with their past skills help the elderly feel self-confidence (please see Article IV). For instance, looking after their grandchildren can help the elderly receive appreciation from their children; creating something like a delicious dish or knitted baby clothes gives the elderly the feeling that they are still useful. This reminds us that the user experience is key to successful transformation design. To achieve this, designers must pay attention to what experiences the elderly had in the past and what experiences the elderly wish to have in the present because, usually, these experiences overlap in their consciousness. Ciaunica et al. (2021) claimed that the early experiences may consciously impact on human being's later experiences, like who we are, what we prefer to do and worldviews that cross our lifespan.

The first article (based on the Bo-Ai project) found that the experiences that the elderly wish to have should take three points into consideration: creating the opportunity for the elderly to interact with each other (e.g., Row 4); creating chances for the elderly to have pleasant experiences (e.g., Row 5); and providing an opportunity for the elderly to use their skills, such as handcraft, which sometimes can help them forget time and touch on something more profound. These profound experiences go beyond simple mental needs and are more akin to spiritual needs (e.g., Row 6). The Life 2.0 project also conveyed the importance of experience in elderly care transformation design because its goal was to create an ICT platform for the elderly to socialise and live independently (e.g., Row 7). In sum, experiences must be placed at the centre of transformation design.

At the same time, I found another important influencing factor of transformation design: *participation*. For example, in the Bo-Ai project, the goal was to design food services that relied on filial culture. To create suitable arrangements, the elderly must be invited to and participate in the design process as codesigners because they not only know what they want best, but also how filial culture was practised in the past (e.g., Row 4). At the same time, because of their participation, the evaluation and testing processes can be done more efficiently because the elderly are the main users of this food service (e.g., Rows 5 and 6). In Article IV (centred on the Jin-Ding project), I further discussed how the 'good old days' empowered the elderly to participate in the design process, which was explored in combination with

the double diamond model. In the Life 2.0 project, too, because of the elderly's participation, the persona, the future user of 2.0 ICT platform, was successfully established, which helped accelerate the design process of the ICT platform's creation.

5.   Discussion

At the centre of the current dissertation is the theme of what constitutes a good life, specifically for the elderly. In his *Nicomachean Ethics,* Aristotle (384–322 BCE) argued that eudaimonia—or living well—is the ultimate good that one can achieve in human life (Ameriks & Clarke, 1999). This state of 'living good' (Veenhoven, 2013) allows one to flourish and pursue one's well-being. Meanwhile, the term hedonic good has been commonly used in contrast with eudaemonic good, emphasising the importance of living to 'enjoy life' (2013), such as having a good bottle of wine. The difference between those two goods is that the former pursues *the* good, and the latter looks for *a* good (Luo, 2019). *The* good refers to psychological development or a positive mental state; *a* good denotes a desire for satisfaction (Veenhoven, 2013). Epicurus (341–270 BCE), another ancient Greek philosopher, also advocated for 'pursuing happiness by pursuing activities that provide pleasure and by avoiding activities that cause pain (letter to Menoikeus)' (Steen, 2016, p. 5). Thus, in the Western view, a good life is about feeling good on a psychological level, the satisfaction of a specific desire and the process of pursuing that desire. Asian philosophy also agrees that pursuing happiness is a critically important constituent of a good life (Luo, 2019). However, the pursuit of happiness is understood differently. The Confucian conception of happiness is based on three salient aspects: ethical pleasure, ethical desire and moral innocence (Luo, 2019). In other words, the concept of happiness from a Confucian point of view is most concerned with how people pursue happiness ethically and morally, not with the question of whether people experience pleasure or assuage their desires. Regardless of where these philosophical views may come from, the ultimate goal of life is to achieve happiness. However, what do we mean by happiness, exactly? Seligman (2002) took the perspective of positive psychology and proposed that happiness is made of three different components: life of enjoyment (pleasant life), life of engagement (good life) and life of affiliation (meaningful). In the present study, my own philosophical view is based on pragmatism, which states that 'it is useful because it is true' or 'it is true because it is useful' (James, 1975, p. 98). From this perspective, a good life is a useful life, and a useful life is a good life. From this pragmatic view, I discuss how the 'good old days' enabled the elderly to achieve a good life, one made of enjoyment, engagement and affiliation, as per Seligman's (2002) definition.

I discussed the main findings in the previous chapter. However, the implications of those findings will be analysed in this chapter, where I will further explain how they can impact elderly care on a more practical level. I created a 'triangle matrix'

of the 'good old days' (please refer to Diagram 11) to illustrate the new findings and how they are connected with the four articles. The triangle in white at the centre represents the themes of the 'good old days', as introduced in the previous chapters and in my published articles. The triangle at the top shows how the elderly's connection with their 'good old days' can help satisfy their various needs (i.e., 4.2). The bottom-left triangle refers to the actors of the 'good old days' when it comes to their intrapersonal, interpersonal and interactional relationships (i.e., 4.1). The bottom-right triangle shows the reason why the 'good old days' can be translated from a theoretical concept into a potent tool for improving elderly care via transformation design (i.e., 4.3). In the following subheadings, the detailed findings and content will be discussed further.

Please be aware that each subheading is based on an individual triangle that I have pulled out from Diagram 11. In addition, each triangle (please see Diagrams 11.1, 11.2 and 11.3) has a 'shadow' in grey. The triangle itself contains the findings on a general level, but the 'shadow' contains practical suggestions on how the 'good old days' can be implemented successfully in elderly care.
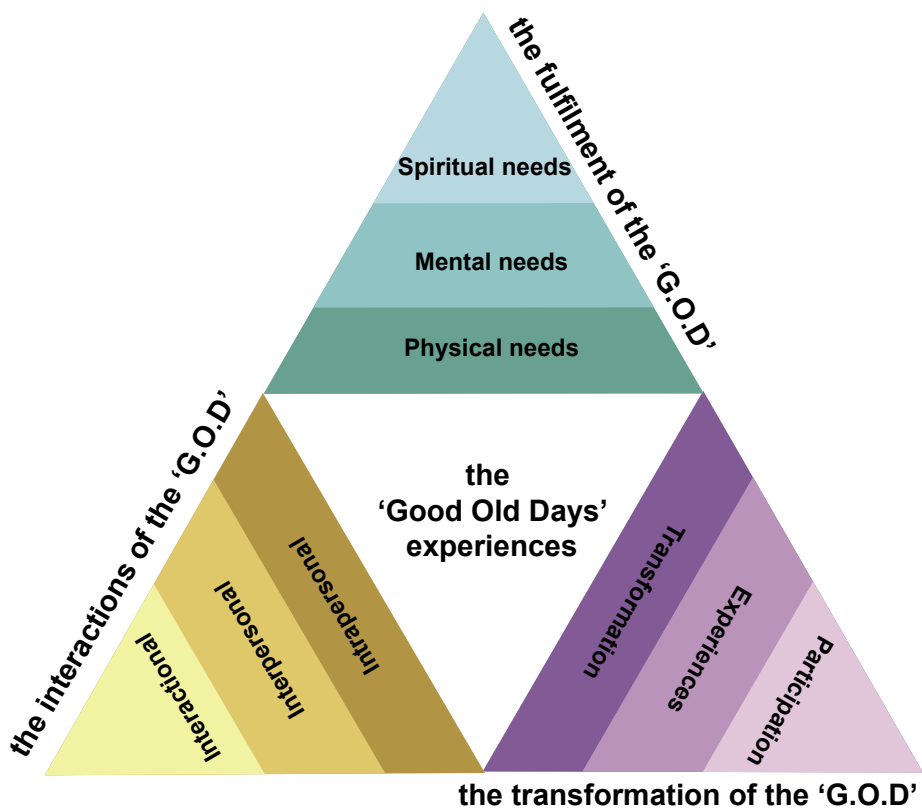

Diagram 11: *Triangle matrix of the 'good old days'*

5.1 The 'good old days' fulfil different (physical, mental, spiritual) needs of the elderly in care

Understanding the needs of the user is always the first and most essential task for designers in the design process. Without this stage, designers cannot create the right products or services. In relation to elderly care, I found (see section 4.1) that the needs of the elderly (the top-right triangle of Diagram 11) are consistently associated with their 'good old days' experiences. At the same time, I have also discovered that those needs are located in different areas, as shown in heading 4.1. Therefore, I have arranged them under the categories of physical, mental and spiritual needs, as seen from the bottom to the top in Diagram 11.1. In this section, I argue that designers should get to know these needs to come up with different design solutions for the elderly in care institutions.

Diagram 11.1: *The needs for elderly care and connection with their 'good old days'*

Physical needs are always the first needs of the elderly; they include exercise and a well-balanced diet. With the three themes of 'good old days' defined in the Jin-Ding project (please refer to Article IV), I stressed throughout section 4.1 that each of the themes had a strong connection with physical well-being. For instance, being with nature, such as gardening, fishing or other outdoor activities, may not only help the elderly improve their level of regular exercise, but it can also remind them of their 'good old days', that is, being with family, friends or their community. This is more obviously demonstrated in the Bo-Ai home, where all the elderly who shared one apartment together prepared the dining table, had meals and then cleaned up

the dishes or the dining table together. Being creative can more directly affect the physical well-being of the elderly. Some elderly are very good at handcraft work. This kind of physical practice is not about keeping them busy with exercise but more about giving them a chance at being immersed in the 'good old days' of their past and feeling a sense of accomplishment.

Nowadays, physical activities are widely adopted within in-home care or institutional care and have become an important component of a healthy lifestyle for the elderly (Graafmans et al., 2003). However, the study of the 'good old days' reminds those of us who work on designing for elderly care how to avoid a major pitfall: by focusing exclusively on physical services, we may not be necessarily able to trigger the 'good old days' feeling in the elderly. In addition, too much physical activity can have adverse effects and even interfere with their overall well-being. That is, we—the designers—might not be designing what the users—the elderly—really need. Good elderly care services should enable the elderly to engage in meaningful and fulfilling activities, especially if these activities make good use of the elderly's own talents and skills, hence creating and nurturing relationships with the people they care about (Lyubomirsky, 2008), such as family members and neighbours, as explained by the findings from the Jin-Ding project.

The mental needs of the elderly are a state of well-being in which every individual realises their own potential. These needs correspond to positive psychological theory, which consists of five elements: positive emotions (e.g., pleasure); engagement (e.g., in creative processes); relationships (e.g., with family or friends); meaning (e.g., contributing to a societal goal); and accomplishment (achieving results in challenging activities; Seligman, 2011). As shown in the current research, the 'good old days' can satisfy the elderly's different mental needs (see section 4.1). The first mental need is the feeling of security or safety because the 'good old days' can build bridges between how one used to live in the past and how that person lives now at an elderly care institution. To be more specific, many of the elderly I interviewed in the Jin-Ding community or the Bo-Ai home were anxious about being in an unfamiliar environment. For instance, by speaking their own dialect and having a meal from their home region or by connecting with their old neighbours, they felt safer. Second, the 'good old days' experiences can produce the mental need for achievement, such as appreciation or self-accomplishment (see section 4.1). For instance, in the group discussion of the Jin-Ding project (see section 4.2), some male elderly individuals were proud of using their skills or knowledge to help other people, while some female elderly individuals felt pride from their children because the elderly could take care of the whole family by cooking or cleaning. This sense of achievement was critical for the elderly because they were afraid of becoming 'useless' persons. Being useful by making contributions to one's community is key in keeping the elderly in a positive state and in favouring active ageing (Foster & Walker, 2015). The last need is that of connection with others, which brings about a sense of belonging. According to the

WHO's interpretation of active ageing, being active is not only about participating in different physical activities, but it also about continuing to participate in social, economic, cultural, spiritual and civic affairs (WHO, 2002, p. 12). For example, in the Bo-Ai project, all the participants enjoyed working with each other in the newly designed food services, which were designed to trigger specific 'good old days' experiences associated with filial piety. According to filial culture, the oldest person should take their place first and sit facing the entrance of the dining room, a spot that is considered to be a place of honour. Then, the others subsequently take their seats according to their age, professional title and gender (please see the first article).

Those intimate connections between elderly care and their 'good old days' enabled the elderly to participate in the design process, as demonstrated in the findings chapter. This is why designing for elderly care must go beyond the 'design for' mindset to the 'design with' one. As Morelli (2015), a researcher who participated in the Life 2.0 project, stated, to conduct elderly care design, the elderly must participate in the codesign process as codesigners, which is driven *by* them and *with* them, instead of *for* them. The former (i.e., *by* them or *with* them) is dominated by professional designers, who do not have adequate or acceptable empathy with the elderly and the elderly's desire to recapture the 'good old days'; the latter (i.e., *for* them) is led jointly by the designers and the elderly as codesigners. As Sander and Stappers (2008) stated, in the design process, the expert position should be given to those who will eventually be served. It is because they understand their own situation of living and working better than anyone else that they should play an important role in the design process (Sangiorgi, 2013). However, we also should be aware that mental good does not come by itself; it is often associated with participating in physical activities. For instance, gardening activities could increase physiological well-being and the level of mental relaxation of the elderly (Hassan et al., 2019). This was shown in the Jin-Ding project, in which some older participants mentioned that it was very relaxing when they touched the soil and harvested the vegetables in their own garden. Just being in direct contact with nature could improve the physiological and psychological conditions of the elderly (Elsadek et al., 2021). That is, the 'good old days' experiences should be embedded into service design because this can help provide solutions to satisfy the elderly's mental needs. Without taking the mental needs into account, elderly care becomes a purely physical exercise.

Third, through the data collected in the Jin-Ding project (please see section 4.1), I found that the 'good old days' were indirectly associated with the spiritual needs of the elderly, an association that was usually neglected. However, during the course of my research, I came to discover the importance of spirituality for the elderly through one metaphor (please see sections 4.1 and 4.2 for more details): the Chinese elderly very much believed that fallen leaves should be buried at the root of the tree, which is to say that they should return to where they came from—their 'good old days'. This is because the Chinese elderly believe all creatures have spirits,

and all spirits are similar and connected, a belief influenced by Taoism. Another metaphor led me to reconsider the role of spirituality in the 'good old days' concept: during the group discussion in the Jin-Ding project, a female participant said, 'We are not used to saying I love you verbally; rather, we do something instead to deliver this feeling, like making one bowl of soup to represent our love' (see Article IV). All these spiritual associations were spread throughout the whole research process, during which I found that this kind of metaphor (e.g., making soup = love) can also have metaphysical implications.

Because of this spiritual association, I argue that designing for the elderly should also take their psychology into consideration. This means that, in designing for them, designers should not only consider creating physical forms or shapes (like product design) or engaging with the user's mental needs (like experience or service design), but they should also take the elderly's spiritual associations into account. Previous studies have shown the importance of merging the practice of design with the users' psychological concerns (Kim et al., 2011). From a practical view of elderly care, Steen (2016) proposed the concept of 'design for well-being'. From a strategic perspective of design as action, Herbert Simon said that 'everyone designs who devises courses of action aimed at changing existing situations into preferred ones' (1988, p. 67). Nelson and Stolterman (2014) claimed that design is aiming for the ideal with the view of achieving 'design as research'. All of these insights tell us that designers need to clearly know what the elderly want and must act accordingly.

In sum, the 'good old days' can be seen as a multidimensional concept that contains three main themes: *being with nature, being with family* and *being creative*. Moreover, the 'good old days' concept is strongly linked to the different needs of the elderly on a *physical, mental and spiritual* level. In other words, these findings have addressed the first research question: What kind of 'good old days' do the elderly want to return to?

5.2 The 'good old days' experiences can help bridge the gap between the interpersonal, interactional and intrapersonal forms of communications of the elderly

I started becoming interested in the topic of the 'good old days', as well as in elderly care, when my own grandmother was in the hospital (see section 1.6). One day, she was allowed to move out of the hospital by her doctor, but she insisted upon staying longer. The reason for her wanting to stay was because she had met someone with whom she could talk about similar past experiences. By sharing their pasts, they both became happier than before. By studying the concept of the 'good old days' in the Bo-Ai and Jin-Ding projects, the findings (see section 4.2) have revealed that the 'good old days' are also based on several types of interactions: person to person, self

to other (things or nonhumans) and self to self. Here, I further discuss the tenets of these three interactions, which are illustrated in Diagram 11.2 from the bottom to top (in yellow), along with how they can be implemented in elderly care design (in grey).
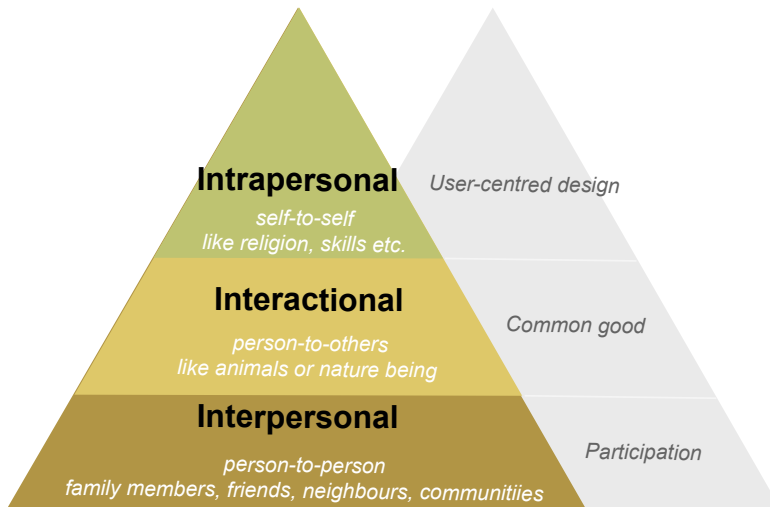

Diagram 11.2: *The intrapersonal, interpersonal and interactional connections that the 'good old days' provide the elderly*

The first type of interaction for the elderly is person to person, as defined in section 4.2. The term is synonymous with interpersonal relationships, which aim to '[help] other people to reach their goals in a variety of ways, such as by contributing their time; lending their knowledge, skills, and resources; and providing emotional support and encouragement' (Orehek et al., 2018, p. 373). In my study, the elderly I interviewed highlighted just how crucial their interpersonal interactions were. As Singer et al. (2017) found, the elderly often started talking about the relationships in their lives while reminiscing about their 'good old days' experiences. In my interviews and group discussions in the Bo-Ai and Jin-Ding projects, the elderly mentioned three groups of people who formed most of the relationships that mattered to them. The first group was family members. Whenever the elderly mentioned their 'good old days' with their family, they derived happiness and/or pride from those memories. For instance, Mrs Y (pseudonym) in the Jin-Ding project expressed that cooking food was one of her hobbies and that it helped her achieve a sense of self-confidence, but at the same time, cooking for her family (children and grandchildren) was the most enjoyable thing in her retired life because it helped her feel the love between her and her family members (He et al., 2020). Outside of these family interactions, interacting with neighbours and friends was also important to the elderly. For

example, in the Jin-Ding project, many elderly mentioned that some of their friends were also their former workmates and neighbours. They were often sharing extra vegetables with them or doing repair work for each other. This phenomenon is common for historical reasons: the workmates from the same company in China used to live in one urban building compound according to the old communist system. This is why I argued that maintaining harmonious relationships between neighbours or friends was one of the most important components of the 'good old days' memories of the Chinese elderly (Pan et al., 2020). Through the influence of the communist culture, the elderly who resided in the Bo-Ai home were used to living closely with each other. For example, the five elderly who participated in my Bo-Ai project actually lived in one shared apartment. As this example shows, repeating the same living conditions they enjoyed in their 'good old days' can improve the elderly's chances to interact with other people in meaningful ways.

By taking note of the importance of such interpersonal interactions, designers can develop a more interactive type of communication with their clients: participatory design. Participatory design emphasises the power shift between the researcher and participants (Harrington et al., 2019). Examining the 'good old days' tells us that the elderly know their past experiences best and, thus, should play a more active role in the design process, as discussed in section 5.1. At the same time, the participatory design also highlights the necessity to collaborate with all stakeholders in the design process (Sanders & Stappers, 2008). The stakeholders in elderly care should include family members, neighbours, friends and even the community at large because all are involved in different aspects of the elderly's interpersonal interactions. For instance, in the Bo-Ai project, the main problem we found in their food services was the absence of elements catering to filial culture. Then, with the active participation of the elderly and their family members, we designed and tested new food services. The care providers' contributions were also revealed as having accelerated the design process (please see Article I). Hence, we can see that person-to-person relationships are crucial in elderly care and that we, as designers, should pay more attention to them in our practice.

Second, the concept of the 'good old days' also involves interactions not just with other people but with other creatures. This I called 'person to others' in the findings chapter (please refer to heading 4.2). Here, the others refer to nonhumans (e.g., animals, landscapes, objects; Choi, 2016). For example, in the present study, many elderly enjoyed interacting with their pets for companionship. Massumi (2015) called those animals 'supernormal animals', a term emphasising just how important the person-to-other (creatures) relationship is. From the Jin-Ding project, 'being with nature' was one of the themes the elderly returned to over and over again when thinking about their 'good old days', mentioning planting flowers, harvesting fruits or vegetables or touching the soil. Interacting with nonhuman creatures helped many of the elderly at an urban care home-like Bo-Ai reconnect with their rural

identity. Indeed, most of the elderly I interviewed or talked with more informally had grown up in the countryside and felt a strong attachment to their homeland. For example, one female elderly who was participating in the Jin-Ding group discussion said that 'taking care of my garden reminds me of the good days with my parents when they were still alive'.

Because of this strong connection between the elderly and nature, designers should be encouraged to think about whether their design practice can consider not only the issue of human pleasure, but also that of living in harmony with nature and other beings. Here, it is of particular importance to create an environment that can remind the elderly of their roots and help them get in touch with their past selves. For instance, at the Bo-Ai home, there was a vegetable garden that helped the elderly reconnect with their previous experience in farming and growing vegetables they could sell at the local market. One resident of the Jin-Ding community, Mrs Wang, explained this eloquently when she said, 'We planted vegetables not only to harvest fresh vegetables or do some physical exercise, but I sometimes enjoy the home feeling when I touch the soil and water because it brings me back to my homeland where I came from' (Pan et al. 2020, p. 6). As designers, we should take this special connection between elderly users and their past surroundings into consideration because it brings about many benefits such as stress relief and a reinforced sense of cultural identity.

When Mrs Wang described her fondness for gardening, she touched on something important: her own inner dialogue between her past and present selves. This is the third type of interaction forming part of the 'good old days': self to self. Dong and Dong (2018) adopted the term intrapersonal to refer to an individual's relationship to their own knowledge and competence. This kind of intrapersonal self-to-self interaction cropped up occasionally during the interviews and group discussions. For example, some elderly were proud of their skills, like cooking, gardening, handcrafts work and so forth. In the Jin-Ding project, another major theme in the elderly's 'good old days' was 'being creative'. Some of their skills or experiences became companions to them, just like pets. Being immersed in their creativity felt like communicating with themselves. In connection to this, Dong (2018) mentioned that intrapersonal aspects may influence personal confidence and competence (p. 471). I would say that the self-to-self interactions helped the elderly find more self-confidence and pride. In the Bo-Ai project, an elderly man I interviewed had dementia for some years, yet he still clearly remembered the moment when his grandson played Rubik's cube with him. Therefore, playing with Rubik's cubes became one of his hobbies, and he treasured it as his own form of intrapersonal interaction. In addition, sometimes, intrapersonal aspects even touch on the elderly's beliefs. For example, the Chinese elderly often use indigenous beliefs rooted in Taoism to interpret their daily life or shape their likes and dislikes. Two examples—like the fallen leaves coming back to the root as well as cooking soup as a means of delivering love—show the connection

between the elderly and their beliefs. This thought is deeply embedded into the Chinese cultural DNA, especially so with the Chinese elderly. More importantly, these intrapersonal interactions can create positive experiences (Singer et al., 2007), such as pride, self-confidence or a sense of belonging, helping the elderly feel like their traditions can explain the vicissitudes of their individual lives (Zaloudek, 2017).

As this discussion of intrapersonal interactions has shown, there is an intimate connection between the elderly's happiness and their attachment to the 'good old days'. With that knowledge in mind, I began to integrate intrapersonal interactions into the design practice. In principle, we, as designers, have learned that service design should start by eliciting the people's wishes and opinions (Hujala et al., 2013), and it should demonstrate a holistic understanding of the users' needs (Stickdorn et al., 2018). In the current research, for example, the wishes of the elderly had multiple interactions between themselves and their 'good old days'. However, the person-to-person and person-to-others types of interactions are easy to comprehend, but the self-to-self interactions are much harder to grasp and can be easily overlooked. Here, I suggest that designers and practitioners who work for the elderly should pay more attention to intrapersonal interactions because it will help designers develop tailor-made solutions to address the elderly's needs more efficiently.

In sum, as sections 5.1 and 5.2 have shown, the 'good old days' experiences can not only satisfy the elderly's physical, mental and spiritual needs, but also provide the elderly's interpersonal, interactional and intrapersonal connections. These findings help answer my second research question: Why are the 'good old days' experiences so crucial for the elderly?

5.3 Using design to transpose the 'good old days' experiences into elderly care

After discussing how the 'good old days' can satisfy the elderly's various needs and how channelling this concept in design can provide them with different types of social connections, I further discuss how these 'good old days' experiences can be translated into the reality of elderly care via transformation approach. In section 4.3, I showed that there are three concepts—transformation, participation and experience—that can help transpose the 'good old days' experiences into elderly care services and improve them in the process. Below, I discuss how these three design concepts work together when designing for elderly care.
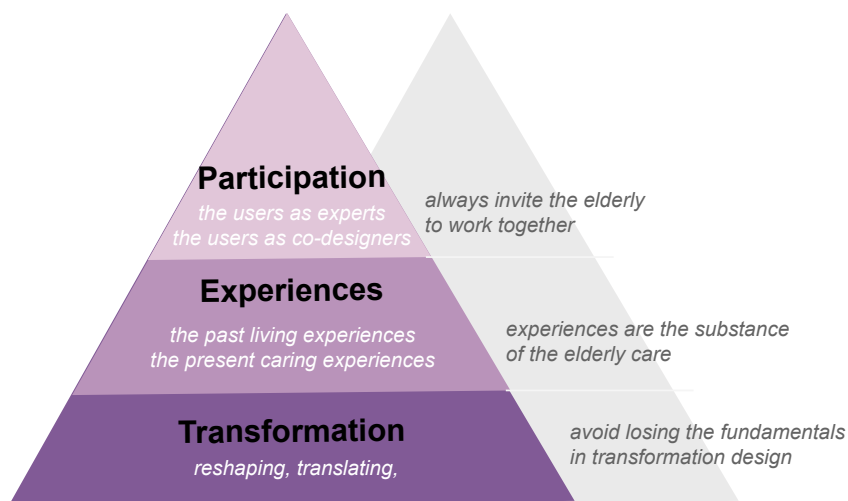
Diagram 11.3: *The understanding of transformation in elderly care design*

In the Jin-Ding project, I defined three themes that formed the bulk of the elderly's 'good old days' experiences: being with nature, being with family/community and being creative. However, these three themes stemmed from the elderly's past living experiences. It means that they might or might not fit well within their current living context because times have changed and living conditions are different, especially so in China, whose urbanisation rate has grown tremendously over the past few decades. For example, living in a senior home in the city makes it inconvenient for the elderly from rural areas to gather in person with their relatives and former neighbours. Here, transformation can help ease feelings of longing that arise from the elderly's nostalgia for their past, just as was done in the Bo-Ai project when we partially transposed the filial culture from their memories into their present living context.

At this point, the best solution to handle the elderly's nostalgia and combat feelings of displacement and loneliness is to transfer the 'good old days' experiences into the current living conditions of the elderly. Doing this can take place through a reshaping process. Based on the understanding in Chapter 2 about design for transformation, the core of transformation in design is not only about giving new shape to the elderly's 'good old days', but more importantly, it is about not losing the substance of their memories in the transformation process. The word substance in the 'good old days' context refers to the good life (a eudaemonic view). More precisely, in the current study, not losing substance means not losing the interpersonal, interactional and intrapersonal connections and physical, mental and spiritual needs that make up the 'good old days'. Furthermore, the 'good old days', when embedded with three interactions and three needs, also empower not only the elder user to participate in

the design process, but also the designers to negotiate access to the design practice. Empowerment is another core of transformation in design because it can build design reflexibility. This means that empowerment enables transformation as a way to change a fundamental culture, not merely solve a specific problem. For instance, the elderly respecting traditional culture is, at its most obvious, in the family context and is difficult to replicate elsewhere. Filial piety is made of two core elements: one, the elderly should be honoured, and two, the elderly should be immersed in a family atmosphere. Therefore, in the Bo-Ai project, I transposed the filial culture from a real family context to a 'family-like' setting among residents and care providers. The oldest participant at the Bo-Ai home sat facing the entrance; the host (the service provider) sat opposite them, and the others also had their own seating places based on social status or gender (see the first article). As a result, we designers did not create the service in a fixed frame; instead, we allowed our transformative service to be more flexible. All the senior participants naturally felt happy with themselves because their new residence showed a high degree of respect towards the traditions they enjoyed earlier in life. The manager of the Bo-Ai also found that elderly care services should go beyond fixed care and provider-oriented services, hence embracing more different service possibilities, as the new food services at the Bo-Ai home showed. Hence, design for transformation in elderly care was found to be necessary, and empowerment was seen as a precondition to achieve a success of transformation. Without the empowerment of users and designers, this transformation cannot emerge. This is why design for transformation is called a 'hero's journey' because it is a very difficult endeavour requiring great commitment from designers (Zerwas, 2016).

As discussed above, transformation allows for the 'good old days' to be reshaped into concrete design choices, here with the aim of providing the best suitable design solutions in elderly care. However, to do so, we should pay close attention to two influencing factors (see section 4.3).

The first one is experience, and it must be placed at the centre of the transformation design process. Helping the elderly achieve a feeling of a 'good life' while in care should be at the core of the design for transformation. A 'good life' is an inherently subjective notion, and its definition varies from person to person. However, in the design practice, a feeling of contentment can be triggered through the stimulation of the user's involuntary memory. The concept of involuntary memory is also called the Proust effect—as popularised by the famous scene in *In Search for Lost Time* where the narrator reconnects with his childhood self while dunking a *madeleine* cake in a cup of tea—and it can be a great source of inspiration for designers. For example, we can consider Naoto Fukusawa's 2003 cell phone, whose striking blunt edges were the result of an association he made between peeling potatoes with a knife as a child and noticing the pacifier-like attachment of people to their phones. That is, designers should clearly know what

kinds of good experiences the elderly had in the past and what kinds of good experiences the elderly desire to have in their current life to awaken the 'good old days' memories that will bring about pleasurable feelings and impart long-term happiness.

That knowledge will inform what kind of pleasant experiences we, as designers, can deliver for the elderly to help them connect their past to their present. Once the experiences of their past have been defined, the process of transformation design can start. As Beucker (2015) suggested, transformation aims to change the user's current living context with the knowledge of their past context. Turning to elderly care, I paraphrase Beucker's understanding as improving the elderly's current living experiences by knowing their past experiences.

What remains to be discussed is how to specifically design for the elderly. This I exemplify with the new food services we implemented at the Bo-Ai home. I presented the details in my first article, where I had three main findings: first, reminding the elderly of their 'good old days' brought pleasant experiences to everyone involved, from staff to residents; two, by channelling the 'good old days' into new food services, we were able to provide a more participatory experience, with the elderly interacting more, whether they were talking to each other, passing the food around or reminding each other of their dietary constraints; third, because of the first two experiences, the elderly felt happy and started thinking that their elderly lives were fulfilling and meaningful. I call those fulfilling and meaningful feelings 'profound experiences'. If we can provide such experiences to the users, we have accomplished our mission as designers. This is a way to measure if the process of transformation design has been successful.

However, to have a holistic understanding of the elderly's experiences, the concept of participation needs to be adopted, especially in the transformative design process, because future users know their own living and working situations the best (Sangiorgi, 2013). For example, they know what their past experiences were because they were the main actors; they can also explain which experiences were good and which ones were not. As professional designers, we have to use the methods of ethnography, as I did in my research, to understand what kind of 'good old days' the elderly yearn to experience again. This is why design ethnography is widely used in the design field: it can help the design team create an empathic understanding of the users' practices and routines, in addition to understanding what the users care about (Van Dijk, 2018). For instance, in the Jin-Ding project, I used interviews and group discussions to define the main themes of the elderly's 'good old days'; in the Bo-Ai project, I drew from the participants' observations to help me define the main problems of their elderly care services. Without the elderly's participation, I would have not been able to get these results.

Thus, we can see that transformation design, along with the concepts of participation and experiences, plays an important role in translating the 'good old

days' experiences into the practice of elderly care. The transforming process responds to the third research question: How can those 'good old days' be implemented in elderly care?

6. Conclusion

In the current dissertation, I, as a designer-researcher, investigated how service design can help tackle the issue of elderly care. More specifically, I studied how the elderly's 'good old days' experiences were being adopted to improve elderly care in practice. The study was initiated from my own experiences with my grandma, but after further studying this topic, I realised that many elderly people value their past experiences as precious in their elderly lives.

To have a comprehensive understanding of this topic, I devised three research subquestions: 1) What kind of 'good old days' do the elderly want to return to? 2) Why are those 'good old days' so important to the elderly? 3) How can those 'good old days' be implemented in elderly care? Based on these research questions, I conducted two projects—Bo-Ai and Jin-Ding—in Chinese society between 2017 and 2020 to gather first-hand data. The Jin-Ding project employed the ethnography method and aimed to define what 'good old days' the elderly longed for in their old age; the Bo-Ai project took a practical perspective and explored how to utilise the elderly's 'good old days' experiences in elderly care. At the same time, I also used secondary data in the form of five publications from the Life 2.0 project, which was conducted in European societies in different countries. The intention of using this second-hand material was to study the difference and similarities between different nations and cultures and then respond to the research questions of the present dissertation.

Within a five-year research period, I have published four articles that have addressed my research questions. Some answers to the questions were addressed explicitly from individual articles, like the three themes of the 'good old days' in Article III, which replies to the first subresearch questions. However, some answers were quite implicit because they were hidden in different projects or entangled in different articles. For example, in the response to why the 'good old days' are so significant for the elderly in their daily lives, the answers spanned across all individual projects and articles. After numerous times closely studying the data I collected, the final findings produced convincing responses. First, the 'good old days' cannot only help the elderly recall their physical and mental experiences, but also associate themselves with their spiritual needs, like their cultures or beliefs. I concluded that the 'good old days' can fulfil the multiple needs of the elderly regarding their physical, mental and spiritual aspects.

The second result I found is that the 'good old days' can provide the elderly with different types of interactions between themselves and other people and/or other

things. In the discussion chapter, I defined these as intrapersonal, interpersonal and interactional interactions that offer the elderly strong chances to connect with different people, different things and even themselves, which make the elderly feel well connected with society and never feeling as though they are being discarded. These two results have answered the second subresearch question, which is why those 'good old days' are so essential to the elderly.

The third finding is that the 'good old days' can be applied to the field of elderly care in practical ways. For the concept to be well implemented, I have proposed three key components that must be taken into account—transformation, participation and experiences. Here, transformation is a necessary step to translate the 'good old days' experiences into elderly care, participation recognises the user's value in contributing their understanding to the design process, and experiences highlight the fact that elderly care must be centred on the elderly users' needs and experiences, not that of the designers. These findings answer the third subresearch question.

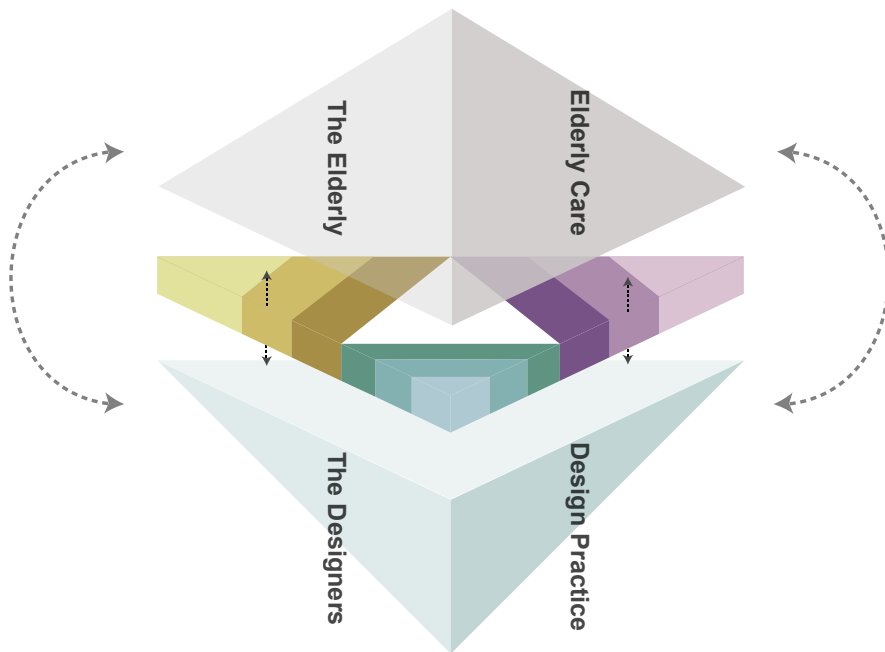**Diagram 12:** *Diamond sandwich of the 'good old days' in design and elderly care practices*

Diagram 12 demonstrates how the 'good old days' can be implemented in the future. In other words, this diamond sandwich can be seen as a reminder of how to provide suitable services in elderly care for future designers or care practitioners. As the diamond sandwich diagram shows, the middle part—the meat of the

metaphorical sandwich—represents all of the findings connected to the 'good old days' in the current dissertation, while each individual-coloured triangle refers to the individual findings from the findings and discussion chapters. The upper and lower parts—the buns of the sandwich—refer to the four fields in which the 'good old days' concept can be of relevance. That is, the value of the 'good old days' (the middle part) not only supports the development of elderly care (the upper part), but it also informs the process of the design practice (the lower part). For instance, the physical, mental and spiritual needs and intrapersonal, interpersonal and interactional forms of communication of the elderly convey the connection between themselves and their 'good old days' while also providing the designers with an input that can lead human-centred elderly care service design projects.

Besides the double application of the 'good old days' concept in the design practice and in elderly care services, I want to furthermore argue for the legitimacy for the 'good old days' in real-life situations. In elderly care, the most popular concepts adopted by elderly care practitioners are either ageing in places or ageing in culture. For instance, ageing in places (like ageing at home or ageing in a community) emphasises the importance of living in familiar surroundings for the elderly because it is both more convenient and enables them to be more independent. In contrast, ageing in culture considers internalised values (e.g., indigenous knowledge, traditions or cultural conventions) when dealing with the elderly's mental and cultural needs in their care. However, the former concept is too narrow and the latter too wide. The 'good old days' strikes a good compromise; it addresses both the concerns of ageing in places and ageing in culture while providing the resources to enhance the quality of elderly care by satisfying the elderly's needs and/or improving their interactions with others based on their past experiences.

Of course, researching the 'good old days' in elderly care needs more input from scholars in different fields than design. As a designer-researcher, I have proposed the notion of the 'good old days' as a central concept in elderly care, and I hope more peers will join me in exploring its value. At the moment, I am writing my dissertation during the time of the COVID-19 pandemic. In these very special circumstances, the elderly have suffered more losses than the rest of the population and are among the most vulnerable groups. One hardship for the elderly is that they do not believe they can go back to life as good as the 'good old days'; in other words, their nostalgia is made even more acute by the trying circumstances they have had to endure for the past couple of years. Even for us regular people, during the COVID-19 pandemic, we have cast a nostalgic gaze on the world of yesterday (Zweig, 2013); that is, we long for a prepandemic world where we enjoyed a greater degree of freedom and mobility. Much like the elderly, we have looked for the 'good old days' in regular conversations and in our memories. Therefore, the present study is timely and delivers fresh solutions to address the elderly's increased yearning for their past during the pandemic.

6.1   The limitations and challenges of this study

I started the research at the end of 2016, nearly six years ago. Throughout this journey, I have conducted two projects between 2017 and 2020 to explore what the 'good old days' mean to Chinese seniors and Chinese society. However, for two reasons, I did not have enough time or space to further study what the 'good old days' mean to European seniors: linguistic and cultural barriers across Europe that would require more specific expertise on the researcher's part and fewer opportunities to contact elderly people in care homes during the COVID-19 pandemic. To address this gap in my research, I have borrowed data from the European-led Life 2.0 project. However, that project's main focus was to create an ICT platform to promote the elderly's independent living and socialising rather than to explore the 'good old days' of the elderly. Thus, I have added new life to the Life 2.0 project by applying its findings to the 'good old days' and have also produced good results in using it to compare Chinese society with European society. That comparative analysis has led me to the conclusion that elderly care should take cultural differences into consideration. For example, the Chinese elderly value their interdependent culture as part of staying in touch with their 'good old days'; in contrast, the European elderly appreciate their independence.

Another challenge in conducting the present study was to carefully consider its potential ethical problems and cultural sensitivity issues. Ethical matters often appear in interviews and/or group discussions because the elderly's 'good old days' are connected to their personal experiences either from the past or present. Some elderly or elderly's family members did not like to expose their past and/or reveal their current living conditions. Sometimes, the seniors' past experiences were quite emotional and deeply touching. For example, the man I interviewed at the Bo-Ai home who used to play Rubik's cube with one of his grandsons said, 'My grandson no longer plays Rubik cube with me because of a "certain" reason, but I still like to hold it from day to day, and play with it alone from time to time ... I know he is with me while I am doing it ...'. This type of omission often led me to feel embarrassed: I either had to assume what had happened to the interviewee, or I became obsessed with the mystery they had presented to me if I chose not to fill in the blanks. In such moments, I struggled between being objective and subjective. The culturally sensitive matters I had to consider refer to some specific historical and religious issues I encountered in China. For instance, regarding the Mao times, some seniors' descriptions of past events were very contradictory: sometimes very critical while other times idealised. I, as the researcher, also come from China and know what they were talking about, but because the interviewee did not explicitly convey their opinions, I cannot use some of the information they gave me because, sometimes, I was merely operating on assumptions.

In sum, the 'good old days' are important for the elderly in care because they not only can convey the source of the elderly needs, but also can provide various types

of interactions with themselves and other people and creatures. Decoding the 'good old days' content, I have shown, not only translates into better design decisions for elderly care, but it also provides meaningful information for the design field in general. I hope future researchers continue investigating the value of the 'good old days' and, more importantly, place the 'good old days' within the design practice to create better elderly care services.

6.2   Suggestions for future research in design in elderly care.

The current study has overwhelmingly focused on the 'good' aspect of the good old days, assuming that they are positive in nature and tied to pleasurable experiences. However, this might be a shortcoming in my work because the old days are composed of 'good' and 'bad' experiences alike. For instance, some elderly may have experienced traumatic events in their past but still describe these as part of their 'good old days', thus adding more nuance to the definition I have proposed. In trauma studies, it has been shown that survivors process traumatic events in different ways: although some might be in denial over what has happened to them (avoidance coping), others might reappraise the crisis they underwent and seek support (approach coping), which are two actions that may encourage posttraumatic growth (Schaefer & Moos, 1998). For instance, an elderly person who experienced hardship and hunger during the Mao regime may (more or less consciously) may decide to prioritise the camaraderie they experienced at that time over their trauma when remembering those times. Knowing this, I hope that future researchers continue to uncover the 'bad' aspects making up the 'good old days' because terrible historical events can also be part of an elderly's feelings of nostalgia, and ageing communities may want some of those elements to be remembered by themselves and by newer generations. Because the current study does not cover this aspect sufficiently, future research can fully examine this, whether in trauma studies, neurology or in designing for elderly care. Only with the full force of this interdisciplinary framework can the study of the 'good old days' truly be complete.

Reference List

Aboderin, I. (2017). *Intergenerational support and old age in Africa*. Routledge.

Addis, D. R., Leclerc, C. M., Muscatell, K. A., & Kensinger, E. A. (2010). There are age-related changes in neural connectivity during the encoding of positive, but not negative, information. *Cortex*, *46*(4), 425–433.

 Ameriks, K., & Clarke, D. M. (2000). *Aristotle: Nicomachean ethics*. Cambridge University Press.

Andrews, G. J., & Phillips, D. R. (Eds.). (2004). *Ageing and place* (Vol. 9). Routledge.

Archer, B. (1981). A view of the nature of design research. *Design: Science: Method*, *1*, 30–47.

Azarian, R. (2011). Potentials and limitations of comparative method in social science. *International Journal of Humanities and Social Science*, *1*(4), 113–125.

Baddeley, A. D. (2007). *Working memory, thought and action*. Oxford University Press.

Barbour, R. (2013). *Introducing qualitative research: a student's guide*. Sage.

Bazalgette, L., Holden, J., Tew, P., Hubble, N., & Morrison, J. (2011). *Coming of age*. Demos Publisher.

Belk, R. W. (1990). The role of possessions in constructing and maintaining a sense of past. *Advances in Consumer Research, 17*(1), 669–676.

Beucker, N. (2015). Transformation design: A piecemeal situational change. In W. Joans, S. Zerwas, & K. von Anshelm (Eds.), *Transformation design* (pp. 33–42). Birkhäuser

Blat, J., Sayago, S., Kälviäinen, M., Rizzo, F., & Morelli, N. (2011). Cross-cultural aspects of ICT use by older people: preliminary results of a four-country ethnographical study. In *Proceedings of Irich Human Computer Interaction Conference Integrated Practice Inclusive Design, Korck* (pp. 9–12).

Buchanan, R. (1992). Wicked problems in design thinking. *Design Issues*, *8*(2), 5–21.

Bukhari, S. A. H. (2011). *What is comparative study*. https://ssrn.com/abstract=1962328

Burns, C., Cottam, H., Vanstone, C., & Winhall, J. (2006). *RED paper 02: Transformation design*. Design Council.

Cantù, D., Costa, F., & Rizzo, F. (2011, June). Life 2.0: geographical positioning services to support independent living and social interaction of elderly people. In *Proceedings of the 2011 Conference on Designing Pleasurable Products and Interfaces* (pp. 1–2).

Caulfield, J. (2019). *How to do thematic analysis*. https://www.scribbr.com/methodology/thematic-analysis/

Cemental, R. (n.d.). *9 reasons why reminiscing can benefit seniors*. https://www.caringseniorservice.com/blog/9-reasons-why-reminiscing-can-benefit-seniors

Chan, C. M. A., & Lim, Y. M. (2004). Changes of filial piety in Chinese society. *The International Scope Review, 6*(11), 17 – 21.

Charles, S. T., Mather, M., & Carstensen, L. L. (2003). Aging and emotional memory: The forgettable nature of negative images for older adults. *Journal of Experimental Psychology: General*, *132*(2), 310.

Cheng, S. T., & Chan, A. C. (2006). Filial piety and psychological well-being in well older Chinese. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *61*(5), P262–P269.

Choi, M. (2016). More-than-human geographies of nature: Toward a careful political ecology. *Journal of the Korean Geographical Society*, *51*(5), 613–632.

Ciaunica, A., Safron, A., & Delafield-Butt, J. (2021). Back to square one: the bodily roots of conscious experiences in early life. *Neuroscience of Consciousness*, *2021*(2), niab037.

Coffey, A., & Atkinson, P. (1996). *Making sense of qualitative data: Complementary research strategies*. Sage Publications, Inc.

Collier, D. (1993). The comparative method. In A. W. Finifter (Ed.), *Political science: The state of discipline II* (pp. 105–119). American Political Science Association.

Collins, A., Joseph, D., & Bielaczyc, K. (2004). Design research: Theoretical and methodological issues. *The Journal of the Learning Sciences*, *13*(1), 15–42.

Cook, E. A. (1998). Effects of reminiscence on life satisfaction of elderly female nursing home residents. *Health Care for Women International, 19*(2), 109–118.

Correia, A. P., & Yusop, F. D. (2008, October). ' I don't want to be empowered' the challenge of involving real-world clients in instructional design experiences. In *Proceedings of the Tenth Anniversary Conference on Participatory Design 2008* (pp. 214–216).

CORDIS. (2010). *LIFE 2.0: Geographical positioning services to support independent living and social interaction of elderly people* https://cordis.europa.eu/project/id/270965

Cotelli, M., Manenti, R., & Zanetti, O. (2012). Reminiscence therapy in dementia: A review. *Maturitas*, *72*(3), 203–205.

Coxon, I., & Bremner, C. (2019). Who cares?... But first, what is the who, and what is care? *Nordes*, (8).

Coxon, I. (2016, March 3). *An ecology of care. Odense: TEDxEAL*. YouTube. https://www.youtube.com/watch?v=a_tlurzwzrs [accessed 25-12-2018].

Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage Publications.

Crouch, C., & Pearce, J. (2013). *Doing research in design*. Bloomsbury Publishing.

Daatland S. (2005). Quality of life and ageing. In M. Johnson (Ed.), *The Cambridge handbook of age and ageing* (pp. 371–377). Cambridge University Press.

Davey, J. A., de Joux, V., Nana, G., & Arcus, M. (2004). *Accommodation options for older people in Aotearoa/New Zealand*. Centre for Housing Research.

Davis, F. (1979). *Yearning for yesterday: A sociology of nostalgia*. Free Press.

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2011). *The Sage handbook of qualitative research*. Sage.

Design Council. (2021). *What is the framework for innovation? Design Council's evolved Double Diamond*. https://www.designcouncil.org.uk/our-work/skills-learning/tools-frameworks/framework-for-innovation-design-councils-evolved-double-diamond/

Dixon, B. (2019). Experiments in experience: Aligning design inquiry with John Dewey's pragmatism. *Design Issues, 35*(2), 5–16.

Dobriansky, P. J., Suzman, R. M., & Hodes, R. J. (2007). *Why population aging matters: A global perspective.* National Institute on Aging, National Institutes of Health, US Department of Health and Human Services, US Department of State. https://www.nia.nih.gov/sites/default/files/2017-06/WPAM.pdf

Dong, Y., & Dong, H. (2018, July). Design empowerment for older adults. In *International Conference on Human Aspects of IT for the Aged Population* (pp. 465–477). Springer.

Dust, F., & Jonsdatter G., (2007), Participatory design. In M. Erlhoff & T. Marshall (Eds.), *Design dictionary: perspectives on design terminology* (p. 291). Birkhäuser.

Eldridge, M. (1998). *Transforming experience: John Dewey's cultural instrumentalism*. Vanderbilt University Press.

Elsadek, M., Shao, Y., & Liu, B. (2021). Benefits of indirect contact with nature on the physiopsychological well-being of elderly people. *HERD: Health Environments Research & Design Journal*, *14*(4), 227–241.

Ertner, M., Kragelund, A. M., & Malmborg, L. (2010, November). Five enunciations of empowerment in participatory design. In *Proceedings of the 11th Biennial Participatory Design Conference* (pp. 191–194).

Esser, F., & Vliegenthart, R. (2017). Comparative research methods. In *The international encyclopedia of communication research methods* (pp. 1–22). https://onlinelibrary.wiley.com/doi/pdf/10.1002/9781118901731.iecrm0035

European Union. (2015). *The making ageing better: Design led innovations for active ageing*. https://keep.eu/projects/5364/Design-led-Innovations-for-A-EN/ and the documentation is https://idz.de/dokumente/DAA_FINAL_BOOK.pdf

Fendt, J., & Kaminska-Labbé, R. (2011). Relevance and creativity through design-driven action research: Introducing pragmatic adequacy. *European Management Journal*, *29*(3), 217–233.

Findeli, A., Brouillet, D., Martin, S., Moineau, C., & Tarrago, R. (2008, May). Research through design and transdisciplinarity: A tentative contribution to the methodology of design research. In *Focused–current design research projects and methods. Swiss Design Network Symposium* (pp. 67–94). HAL Science Ouverte.

Flusser, V. (2013). *Shape of things: A philosophy of design*. Reaktion Books.

Formplus. (n.d.). *Descriptive research designs: Types, examples & methods* https://www.formpl.us/blog/descriptive-research#:~:text=In%20descriptive%2Dcomparative%20research%2C%20the,based%20and%20computer%2Dbased%20tests.

Foster, L., & Walker, A. (2015). Active and successful aging: A European policy perspective. *The Gerontologist*, *55*(1), 83–90.

Frayling, C. (1993). *Research in art and design* (Vol. 1, No. 1). Royal College of Art.

Fung, H. H. (2013). Aging in culture. *The Gerontologist*, *53*(3), 369–377.

Gable, S. L., & Haidt, J. (2005). What (and why) is positive psychology? *Review of General Psychology*, *9*(2), 103–110.

Giacomin, J. (2014). What is human centred design? *The Design Journal*, *17*(4), 606–623.

Gong, M. (2010). Happiness, lifestyle and social innovation: Design strategies towards a sustainable society. *Decoration*, (3), 123–124.

Goodwin, N., Dixon, A., Anderson, G., & Wodchis, W. (2014). *Providing integrated care for older people with complex needs: lessons from seven international case studies*. King's Fund.

Graafmans, W. C., Lips, P. T. A. M., Wijlhuizen, G. J., Pluijm, S. M., & Bouter, L. M. (2003). Daily physical activity and the use of a walking aid in relation to falls in elderly people in a residential care setting. *Zeitschrift für Gerontologie und Geriatrie*, *36*(1), 23–28.

Granath, J. Å., Lindahl, G. A., & Rehal, S. (1996). From empowerment to enablement. An evolution of new dimensions in participatory design. *Logistik und Arbeit*, *8*(2), 16–20.

Gray, C., & Malins, J. (2016). *Visualizing research: A guide to the research process in art and design*. Routledge.

Gräsel, E., Wiltfang, J., & Kornhuber, J. (2003). Non-drug therapies for dementia: an overview of the current situation with regard to proof of effectiveness. *Dementia and Geriatric Cognitive Disorders*, *15*(3), 115–125.

Gu, J. (2020). *A new 'therapy' for the dementia seniors: bringing the 'good old days' memories back to their daily life in elderly care*. Jiefang News. https://news.sina.com.cn/c/2020-08-19/doc-iivhuipn9423830.shtml

Guidat T., Barquet, A., Widera, H., Rozenfeld, H., & Seliger, G. (2014). Guidelines for the definition of innovative industrial product-service systems (PSS) business models for remanufacturing. *Procedia CIRP, 16,* 193–198.

Guide, H. (2016). *Focus group discussion.* https://herd.org.np/uploads/frontend/Publications/Publications/PublicationsAttachments1/1485497050-Focus%20Group%20Discussion_0.pdf

Harper, S. (2014). *Ageing societies: Myths, challenges and opportunities.* Routledge.

Harrington, C., Erete, S., & Piper, A. M. (2019). Deconstructing community-based collaborative design: Towards more equitable participatory design engagements. *Proceedings of the ACM on Human-Computer Interaction*, *3*(CSCW), 1–25.

Harrison, A. K. (2018). *Ethnography.* Oxford University Press.

Hassan, A., Qibing, C., Yinggao, L., Tao, J., Li, G., Jiang, M., Nian, L., Bing-Yang, L. (2019). Psychological and physiological effects of viewing a money plant by older adults. *Brain and Behavior, 9*(8).

Havlena, W. J. & Holak, S. L. (1991). 'The good old days': Observations on nostalgia and its role in consumer behavior. *Advances in Consumer Research[ACR] North American Advances, 18*(1), 323–329.

He, Q., Tan, Y., & Xie, P. (2020). Family happiness or family burden? Caring for grandchildren and happiness of middle-aged and elderly people. *Chinese Economic Issues*, (03), 121.

Heyl, B. S. (2001). Ethnographic interviewing. *Handbook of Ethnography*, *1*, 369–383.

Hemerijck, A. (2012). *Changing welfare states.* OUP Oxford.

Holbrook, M. B., & Schindler, R. M. (1991). Echoes of the dear departed past: Some work in progress on nostalgia. *Advances in Consumer Research, 18*(1), 330–333.

Holcombe, S. (1995). *Managing to empower: The Grameen Bank's experience of poverty alleviation.* Zed Books.

Holmlid, S.(2007). *Interaction design and service design: Expanding a comparison of design disciplines* [Paper presentation]. Nordes 2007: Design Inquiries, 27–30 May, University of Arts, Craft, and Design, Stockholm, Sweden. https://doi.org/10.21606/nordes.2007.031

Hooyman, N. R., Kawamoto, K. Y., & Kiyak, H. A. (2014). *Aging matters: An introduction to social gerontology.* Pearson Higher Education.

Hubbell, P. (2015). *Getting better with age: Improving marketing in the age of aging.* LID Editorial.

Hujala, A., Rissanen, S., & Vihma, S. (2013). *Designing wellbeing in elderly care homes.* Aalto University.

Irwin, T. (2015). Redesigning a design program: How Carnegie Mellon University is developing a design curricula for the 21st century. *Solutions*, *6*(1), 91–100.

James, W. (1975). *Pragmatism: A new name for some old ways of thinking (1907).* Harvard UP.

Järvinen, P. (2005). *Action research as an approach in design science* [Paper presentation]. The EURAM (European Academy of Management) Conference, Munich, May 4–7, 2005, in track 28: Design, Collaboration and Relevance in Management Research.

Jobson, R., & Wickham-Jones, M. (2010). Gripped by the past: Nostalgia and the 2010 Labour party leadership contest. *British Politics, 5*(4), 525–548. 10.1057/bp.2010.25

Jonas, W., Zerwas, S., & von Anshelm, K. (2016). *Transformation design.* Birkhäuser.

Jones, P. (2013). *Design for care: Innovating healthcare experience.* Rosenfeld Media.

Joost, G., Bredies, K., Christensen, M., Conradi, F., & Unteidig, A. (Eds.). (2016). *Design as research: positions, arguments, perspectives.* Birkhäuser.

Kälviäinen, M., & Morelli, N. (2013). Developing services to support elderly everyday interaction. In S. Miettinen & A. Valtonen (Eds.), *Service design with theory: Discussions on change, value and methods* (pp. 42–54). Lapland University Press.

Kelly, L. M., & Cordeiro, M. (2020). Three principles of pragmatism for research on organizational processes. *Methodological Innovations*, *13*(2), 2059799120937242.

Kim, J., Park, S., Hassenzahl, M., & Eckoldt, K. (2011). The essence of enjoyable experiences: The human needs: A psychological needs-driven experience design approach. In *Design, User Experience, and Usability. Theory, Methods, Tools and Practice: First International Conference, DUXU 2011, Held as Part of HCI International 2011, Orlando, FL, USA, July 9-14, 2011, Proceedings, Part I 1* (pp. 77-83). Springer Berlin Heidelberg.

Knickman, J. R., & Snell, E. K. (2002). The 2030 problem: Caring for aging baby boomers. *Health Services Research*, *37*(4), 849–884.

Koskinen, I., Zimmerman, J., Binder, T., Redstrom, J., & Wensveen, S. (2011). *Design research through practice: From the lab, field, and showroom*. Elsevier.

Kuosa, T., & Koskinen, J. (2012). Design tree. In T. Kuosa & L. Westerlund (Eds.), *Service design: On the evolution of design expertise. Lahti University of Applied Sciences Series A, Research reports, part 17* (pp. 11–31). Lahti University of Applied Sciences.

Kuwahara, N., & Morimoto, K. (2015, August). Effective design of traditional Japanese tea ceremony in a group home for the elderly with dementia. In *International Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management* (pp. 413–422). Springer.

Ladner, R. E. (2015). Design for user empowerment. *Interactions*, *22*(2), 24–29.

Lane, J. (1995). Non-governmental organizations and participatory development: the concept in theory versus the concept in practice. In N. Nelson (Ed.), *Power and participatory development: Theory and practice* (pp. 181–191). Intermediate Technology Publications.

Leedy, P. D., & Ormrod, J. (2010). *Practical research: Planning and design*. Merrill Prentice Hall.

Li, C. (2006). The Confucian ideal of harmony. *Philosophy East and West*, 583–603.

Lockwood, T. (2010). *Design thinking: Integrating innovation, customer experience, and brand value*. Simon and Schuster.

Lu, S. C. Y., & Liu, A. (2012). Abductive reasoning for design synthesis. *CIRP Annals*, *61*(1), 143–146.

Luo, S. (2019). Happiness and the good life: A classical Confucian perspective. *Dao*, *18*(1), 41–58.

Lyubomirsky, S. (2008). *The how of happiness: A scientific approach to getting the life you want*. Penguin.

Ma, G. (2015). Food, eating behavior, and culture in Chinese society. *Journal of Ethnic Foods*, *2*(4), 195–199.

Madden, R. (2017). *Being ethnographic: A guide to the theory and practice of ethnography*. Sage.

Mager, B. (2009). Service design as an emerging field. In S. Miettinen & M. Koivisto (Eds.), *Designing services with innovative methods* (pp. 28–43). University of University of Art and Design.

Mager, B., & Sung, T. J. D. (2011). Special issue editorial: Designing for services. *International Journal of Design*, *5*(2).

Makany, T., Kemp, J., & Dror, I. E. (2009). Optimising the use of note-taking as an external cognitive aid for increasing learning. *British Journal of Educational Technology*, *40*(4), 619–635.

Mäkelä, M., & Routarinne, S. (2007). *Artists as researcher: In between art and research*. (Working Papers F 32). University of Art and Design Helsinki. http://www. Taik. Fi/images/stories/ Working% 20papers/32. Pdf.

Manzini, E. (2015). *Design, when everybody designs: An introduction to design for social innovation*. MIT Press.

Margolin, V. (2010). Doctoral education in design: problems and prospects. *Design Issues*, *26*(3), 70–78.

Massumi, B. (2015). The supernormal animal. In R. Grusin (Ed.), *The nonhuman turn*, (pp. 1–17). University of Minnesota Press.

Meyer, M. W., & Norman, D. (2020). Changing design education for the 21st century. *She Ji: The Journal of Design, Economics, and Innovation, 6*(1), 13–49.

Miettinen, S., & Koivisto, M. (2009). *Designing services with innovative methods*. Savonia University of Applied Sciences.

Miettinen, S., Sarantou, M., & Kuure, E. (2019). Design for care in the peripheries: Arts-based research as an empowering process with communities. *Nordes*, (8).

Milligan, C. (2016). *There's no place like home: Place and care in an ageing society*. Routledge.

Morelli, N. (2015a). Challenges in designing and scaling up community services. *The Design Journal, 18*(2), 269–290.

Morelli, N. (2015b). Designing for few, scaling up for many. In *Participatory Innovation Conference (PIN-C)* (pp. 209–216). The Hague University of Applied Science, Syddansk Universitet.

Morewedge, C. (n.d.). *The good old days?* https://www.cmu.edu/homepage/health/2013/summer/the-good-old-days.shtml

Moritz, S. (2005). *Service design: Practical access to an evolving field* [Master's thesis, Köln International School of Design].

Mueller-Roterberg, C. (2018). *Handbook of design thinking*. Hochschule Ruhr West.

Muratovski, G. (2016). *Research for designers: A guide to methods and practice*. Sage.

Nelson, H. G., & Stolterman, E. (2014). *The design way: Intentional change in an unpredictable world*. MIT Press.

Nicholls, C. M., Mills, L., & Kotecha, M. (2014). Observation. In J. Ritchie, J. Lewis, C. M. Nicholls, & R. Ormston (Eds.), *Qualitative research practice: A guide for social science students and researchers* (2nd ed., p. 266). Sage.

Nickpour, F., & Dong, H. (2011). Designing anthropometrics! Requirements capture for physical ergonomic data for designers. *The Design Journal, 14*(1), 92–111.

Nilsson, M., Johansson, S., & Håkansson, M. (2003, April). Nostalgia: An evocative tangible interface for elderly users. In G. Cockton & P. Korhonen (Eds.), *Proceeding of Conference on Human Factors in Computing Systems (CHI)* (pp. 964–965). https://doi.org/10.1145/765891.766096

Nisbett, R. (2004). *The geography of thought: How Asians and Westerners think differently*. Simon and Schuster.

Olsen, W. (n.d.). *Qualitative comparative analysis.* https://www.methods.manchester.ac.uk/themes/qualitative-methods/qualitative-comparative-analysis/#:~:text=Qualitative%20Comparative%20Analysis%20(QCA)%20offers,at%20causality%20between%20the%20variables.

Orehek, E., Forest, A. L., & Barbaro, N. (2018). A people-as-means approach to interpersonal relationships. *Perspectives on Psychological Science, 13*(3), 373–389.

Pan, S., Mikkonen, E., & Sarantou, M. (2020). Relevance of the 'good old days' in designing holistic aged care services. In *The 21th DMI International Design Management Research Conference* (pp. 2422–2440).

Pan, S., & Sarantou, M. (2019). Ageing communities as co-designers of social innovation. *China Journal of Social Work, 12*(3), 273–286. 10.1080/17525098.2019.1700342

Pan, S., Sarantou, M., & Miettinen, S. (2019). Design for care: How the 'good old days' can empower senior residents to achieve better services in an aged care institution. *The International Journal of Design in Society, 13*(2), 25–40.

Peirce, C. S. (1992). *The essential Peirce: selected philosophical writings* (Vol. 2). Indiana University Press.

Phillips, L., & Kristiansen, M. (2013). Characteristics and challenges of collaborative research: Further perspectives on reflexive strategies. In *Knowledge and power in collaborative research* (pp. 263–288). Routledge.

Phoenix, C. (2018). Why qualitative research is needed in gerontology and how we can do it better. *The Journals of Gerontology: Series B*, *73*(7), e81–e85.

Piolat, A., Olive, T. & Kellogg, R. T. (2005). Cognitive effort during note-taking. *Applied Cognitive Psychology, 19*, 291–312.

Plowman, T. (2003). Ethnography and critical design practice. In B. Laurel (Ed.), *Design research: Methods and perspectives* (pp. 30–38). MIT.

Priest, S., & Gass, M. (1997). An examination of 'problem-solving' versus 'solution-focused' facilitation styles in a corporate setting. *Journal of Experiential Education*, *20*(1), 34–39.

Princeton University. (n.d.).*What is ethnography?* https://anthropology.princeton.edu/undergraduate/what-ethnography#:~:text=Ethnography%20is%20a%20research%20method,that%20may%20be)%20and%20a

Raijmakers, B., Thompson, M., & Van de Garde-Perik, E. (2012). New goals for design, new roles for designers. In *Cumulus Conference, Helsinki, 2012. Proceedings ... Helsinki* (pp. 1–11).

Rappaport, J. (2002). In praise of paradox: A social policy of empowerment over prevention. In *A quarter century of community psychology* (pp. 121–145). Springer.

Rasmussen, E., Jørgensen, K., & Leyshon, S. (Eds.). (2014). *Person-centred care: Co-creating a healthcare sector for the future*. DNV GL.

Reeves, T. (2006). Design research from a technology perspective. In *Educational design research* (pp. 64–78). Routledge.

Ritchie, J., Lewis, J., Nicholls, C. M., & Ormston, R. (Eds.). (2013).*Qualitative research practice: A guide for social science students and researchers*. Sage.

Rittel, H. W., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, *4*(2), 155–169.

Rodgers, P., & Anusas, M. (2008). Ethnography and design. In *DS 46: Proceedings of E&PDE 2008, the 10th International Conference on Engineering and Product Design Education, Barcelona, Spain, 04.-05.09. 2008* (pp. 186–191). Artyplan Global Printers

Rønning, F. S. (n.d.). *Design meets ethnography: Reflections on design, innovation, value creation and ethnography*. https://www.ntnu.edu/documents/139799/1270604448/Article%2C+Design+meets+Ethnography+Fr%C3%B8ydis+Sollie.pdf/db41878c-7178-458b-bd00-88b3451534d2

Routledge, C., Arndt, J., Wildschut, T., Sedikides, C., Hart, C. M., Juhl, J., Vingerhoets, A. J. J. M., & Schlotz, W. (2011). The past makes the present meaningful: Nostalgia as an existential resource. *Journal of Personality and Social Psychology, 101*(3), 638–652. https://doi.org/10.1037/a0024292

Ryan, G. W., & Bernard, H. R. (2000). Data management and analysis methods. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed., pp. 416–438). Sage.

Rytilahti, P., & Miettinen, S. (2016). For profit, for good–developing organizations through service design. *For Profit, for Good*, *3*.

Saad-Sulonen, J., De Götzen, A., Morelli, N., & Simeone, L. (2020, June). Service design and participatory design: time to join forces? In *Proceedings of the 16th Participatory Design Conference 2020-Participation (s) Otherwise-Volume 2* (pp. 76–81).

Saldana, J., Leavy, P., & Beretvas, N. (2011). *Fundamentals of qualitative research.* Oxford University

Sanders, E. B. N., & Stappers, P. J. (2008). Co-creation and the new landscapes of design. *Co-design*, *4*(1), 5–18.

Sangiorgi, D. (2009, April). *Building up a framework for service design research* [Paper presentation]. 8th European Academy of Design Conference, the Robert Gordon University, Aberdeen, Scotland.

Sangiorgi, D. (2010). Service design research pioneers: An overview of Service Design research developed in Italy since the '90s. *Design Research Journal*, *1*(10), 26.

Sangiorgi, D. (2011). Transformative services and transformation design. International *Journal of Design, 5*(1), 29–40.

Sangiorgi, D. (2013). Value co-creation in design for services. In S. Miettinen & A. Valtonen (Eds.), *Service design with theory: Discussions on change, value and methods* (pp. 95–104). Lapland University Press.

Sangiorgi, D., & Junginger, S. (2015). Emerging issues in service design. *The Design Journal, 18*(2), 165–170.

Sarantou, M., & Pan, S. (2020). Design for society: Ageing communities as co-designers in processes of social innovation. *Journal of Design, Business & Society*, *6* (1), 129–141. 10.1386/dbs_00007_1

Saunders, M. N. K., & Tosey, P. C. (2013). The layers of research design. *Rapport*, (Winter), 58–59.

Schaefer, J. A., & Moos, R. H. (1998). The context for posttraumatic growth: Life crises, individual and social resources, and coping. *Posttraumatic Growth: Positive Changes in the Aftermath of Crisis*, *99*, 126.

Schmid., E. (2007). Transformation. In M. Erlhoff & T. Marshall (Eds.), *Design dictionary: Perspectives on design terminology* (p. 405). Birkhäuser.

Seligman, M. E. (2002). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*. Simon and Schuster.

Seligman, M. E. (2011). *Flourish: A new understanding of happiness and well-being-and how to achieve them*. Nicholas Brealey.

Sheng, X., & Settles, B. H. (2006). Intergenerational relationships and elderly care in China: A global perspective. *Current Sociology*, *54*(2), 293–313.

Simon, H. A. (1969). *The sciences of the artificial*. The MIT Press.

Simon, H. A. (1988). The science of design: Creating the artificial. *Design Issues*, 67–82.

Singer, J., Rexhaj, B., & Baddeley, J. (2007). Older, wiser, and happier? Comparing older adults' and college students' self-defining memories. *Memory*, *15*(8), 886–898.

Sixsmith, A., & Sixsmith, J. (2008). Ageing in place in the United Kingdom. *Ageing International*, *32*(3), 219–235.

Sommer, B., & Welzer, H. (2016). Transformation design: A social-ecological perspective. In W. Jonas, J. Zerwas, & K. von Anshelm (Eds.), *Transformation design* (pp. 188–201). Birkhäuser.

Spencer, L., Ritchie, J., O'Connor, W., Morrell, G., & Ormston, R. (2014). Analysis in practice. In *Qualitative research practice: A guide for social science students and researchers* (pp. 295–345). Sage.

Statista. (2019). *Share of population aged 60 and older in China from 1950 to 2020 with forecasts until 2100*. https://www.statista.com/statistics/251529/share-of-persons-aged-60-and-older-in-the-chinese-population/

Stanford Encyclopedia of Philosophy. (2021). *Pragmatism*. https://plato.stanford.edu/entries/pragmatism/#PragMaxiPeir

Steen, M. (2013). Co-design as a process of joint inquiry and imagination. *Design Issues*, *29*(2), 16–28.

Steen, M. (2016). Organizing design-for-wellbeing projects: Using the capability approach. *Design Issues*, *32*(4), 4–15.

Stern, B. B. (1992). Historical and personal nostalgia in advertising text: The fin de siècle effect. *Journal of Advertising, 21*(4), 11–22.

Stickdorn, M., Hormess, M. E., Lawrence, A., & Schneider, J. (2018). *This is service design doing: Applying service design thinking in the real world*. O'Reilly Media, Inc.

Stickdorn, M., Schneider, J., Andrews, K., & Lawrence, A. (2011). *This is service design thinking: Basics, tools, cases* (Vol. 1). Wiley.

Stoyanova, S. Y., Giannouli, V., & Gergov, T. K. (2017). Sentimentality and nostalgia in elderly people in Bulgaria and Greece–Cross-validity of the questionnaire SNEP and cross-cultural comparison. *Europe's Journal of Psychology, 13*(1), 109.

Sun, Q. (2020). Towards a new agenda for service design research. *The Design Journal, 23*(1), 49–70.

Sung, K. T. (1990). A new look at filial piety: Ideals and practices of family-centered parent care in Korea. *The Gerontologist*, *30*(5), 610–617.

TENK. (2019). *The ethical principles of research with human participants and ethical review in the human sciences in Finland*. Finnish National Board on Research Integrity guidelines, 3/2019.

Thomas, W., & Blanchard, J. (2009). Moving beyond place: Aging in community. *Generations*, *33*(2), 12–17.

Trischler, J., Pervan, S. J., Kelly, S. J., & Scott, D. R. (2018). The value of codesign: The effect of customer involvement in service design teams. *Journal of Service Research*, *21*(1), 75–100.

Tsuei, J. J. (1978). Eastern and Western approaches to medicine. *Western Journal of Medicine*, *128*(6), 551.

Van Dijk, G. (2010). Design ethnography: Taking inspiration from everyday life. In M. Stickdorn & J. Schneider (Eds.), *This is service design thinking* (pp. 108–115). Wiley

VandenBos, G. R. (2007). *APA dictionary of psychology*. American Psychological Association.

Veenhoven, R. (2013). Notions of the good life. In S. A. David, I. Boniwell, & A. C. Ayers (Eds.), *The Oxford handbook of happiness* (pp. 161–173). Oxford University Press.

Wasson, C. (2000). Ethnography in the field of design. *Human Organization*, 377–388.

Webb, S., & Webb, B. (1975). *Methods of social study*. Cambridge University Press.

WHO. (2002). *Active ageing: A policy framework*. WHO.

Wiles, J. L., Leibing, A., Guberman, N., Reeve, J., & Allen, R. E. (2012). The meaning of 'aging in place' to older people. *The Gerontologist*, *52*(3), 357–366.

Wong, L. P. (2008). Focus group discussion: A tool for health and medical research. *Singapore Medical Journal*, *49*(3), 256–60.

Yu, Y., & Zhang, X. (2007). On the modern value of filial piety culture. *Ethical Research*, (2), 68–73.

Zaloudek, J. A., Ruder-Vásconez, C., & Doll, K. C. (2017). Critique of the religion and spirituality discourse in family articles. *Journal of Family Theory & Review*, *9*(3), 347–365.

Zerwas, S. (2016). Transformation design as 'hero's journey'. In W. Jonas, S. Zerwas, & K. von Anshelm (Eds.), *Transformation design. Perspectives on a new design attitude* (pp. 263–276). Birkhäuser.

Ziebland, S. (2012). Why listening to health care users really matters. *Journal of Health Services Research & Policy*, *17*(2), 68–69.

Zweig, S. (2013). *The world of yesterday* (Vol. 181). Plunkett Lake Press.

Appendix 1: The results of the Bo-Ai project's survey

To discover the critical service interactions/occasions between the elderly and others at the Bo-Ai home, I planned a questionnaire survey. However, because of the seniors' difficulty reading, the whole survey was changed to interview-oriented questionnaires. This is why I call this the questionnaire result instead in Article I.

Category	Participant	Meaning unit	Texts in Chinese
Leisure activies	4	I like **dancing** and **singing**…	我喜欢唱歌，跳舞…
	1	**Chinese calligraphy** is my only **hobby**. Many elderly here are not able to read even, they like to learn how to write from me…	书法是我唯一的爱好，这里很多老年人不认识字，喜欢过来找我学习写字。
	2	…I often **play chess** with the next door man… it is good for us to avoid Alzheimer disease… hahaha…	我经常跟隔壁的老王头一起下棋…这样预防老年痴呆…哈哈…
	5	…it woud be great if there is a small garden for us, we like **gardening**…	要是有块菜地就好了，我可以动一下，我喜欢…
Sport assistance	2	I was used to be a **sportive guy**; but now I am afraid of moving when I am getting old…sad, isn't it?…	年轻的时候我喜欢运动，现在老了害怕动
	1	I know it is good for me to do some **physical excerises**, but it is very hard for me now….	活动一下也知道很好，就是力不从心
Food offering	7	we laugh and we talk when we are **having meal**. I like it…	一起吃饭的时候，有说有笑的
	3	some people **eat at their own room** without talking to each other, which is sad. we do nto like it.	我不是很喜欢这里吃饭的氛围，因为每个人都在自己的房间里面吃
	5	I really do enjoy the feeling that my kids **prepared the meal** for me…that is the **family**, that is the **home feeling**…I miss it, we all miss it…	我喜欢在家里吃饭的感觉，孩子们给你双手端过来的感觉挺好
	2	**food** is the top isseu in everyone's life, isn't it?…	民以食为天嘛
	3	we do not like the **tableware** made by metal here…we are not prisoners, are we?…	这里的餐具我不喜欢，都是金属的放在嘴里怪怪的，像牢饭？
	5	although we can **not eat much**, we **enjoy spending time** with others…like a family…	虽然吃不了多少东西，但是喜欢跟大家一起聊天
	3	the time is different, the young generation does not know what **filial culture** is about… are you excepting the caregivers here?…even my own children won't know how to do it during **dining time**…	现在的年轻人都不知道什么是孝顺，更不用说这里的护工了，不要指望了。
ealth & medical car	8	for the elderly, **health** is important…	对老年人来说，健康很重要
	3	I have **chronic disease** and also easily **forget things**, I need someone to remind me things from time to time….so sorry for them…	我有慢性病，还健忘，需要人时不时的过来提醒我吃药。哎，老了
	7	…useless, always **need others' help**…	老了，不中用了，需要人照顾
	5	feel a bit shamed because of my **disability** now …	总是感觉不好意思，要人照顾
Visiting	5	I am happy to **see my children**, whenever it is…	每次孩子们来我都开心
	2	I miss my **granddaughter**. She was raised up by me…she is my **love**…	我想我的孙女，她小时候是我带大的，她来我高兴
Others	2	from time to time, I am bored here. And I need some work to do.I was a manager in the past…	有时候在这里无所事事，要是有点什么工作给我就好了。

Appendix 2: The interview results of the Jin-Ding project

Themes	Codes	Participant Archives No.	Time	Content	Additional information in Chinese
		F(Femal)/M(Male)			
To be with nature	Enjoy farming, gardenning and vegetable planting	F-1	5'28	种地…当地市场氛围 From time to time, I remember farming… the local street markeing atmosphere..	养老机构没有概念，没有建议；不知道怎么说，没有读过书
		F-2	12'08	种菜…种菜 放牛 I was very happy when I did gardenning… picking up vegetables with my grands and parents…	娱乐活动，打牌，唱歌，跳舞，陪伴，聊天；如果不是迫不得已，不会去养老院；在女儿身边就是幸福；小孙女和老伴的陪伴
		M-6	6'24	庄稼活，样样行，很自豪开心 I was good at different farming works and very proud of this…	老家人没有子女或者生活不能自理的人去养老院，自己不去
	Enjoy with outdoor, animals and fishing	F-10	21'10	与大自然的亲近，掏小鸟，捉鱼 like to close to nature, capture birds nets and fishing…haha…	支持养老，因为自己有足够的退休金。对自己的待遇很满足
		M-14	18'04	捉鸟，摸鱼，田野生活 go to the field and riviers, enjoy the birds singing and fishing …	家庭养老
		M-20	3'29	旅游 travelling to other places	如果养老机构能够提升服务，愿意去养老院养老
		F-7	3'02	登山 户外散步 outdoor walking	
To be with family and community	Children	F-6	18'41	抚养子女 …raise children	社保金，医疗保险；希望儿女的陪伴；家庭的美
		M-11	21'13	孩子长大 ……children growing up…	
		F-15	15'21	女儿考上大学/家人的陪伴 I am very proud of my daughter she accessfully went in a good university…	对养老机构的不信任通过媒体；骄傲感 为女儿
		M-25	18'54	I was served at Military as an IT engneer in the past, and I were used to tutor my grandson with my knowledge, and we often played magic cube with each other. It brought me a lot of happiness…I miss him, I hope that he can visit me more often. ..	
	Family and parents	F-7	9'17	在父母身边/ 同事关系 I miss the time when I were with my parents…	登山，与朋友聚餐
		M-5	22'31	家婚和孩子 family and children are important to me…	城市太多建筑，需要绿地活动空间
		F-17	27'01	结婚-家庭 family is important for me	自己养老，不给孩子添麻烦；家庭带给我的快乐
		F-28	19'12	because of history reason, I lived seperately with my family (they are in Macau, I am in China alone), it always brings me the great happiness when they come over to visit me. ….this is the engergy for me to be here alone with 93 years old… do you want to hear my singing?... I am good at it…	
		F-19	20'01	孩子，老公，家人的陪伴 accompany of children, partner and family	工作让我快乐
	Neighbours or friends	F-27	19'52	as I see, the senior people who live at the nursing home often talk about their family members and "home "…I often heard those two topics from them….	
		M-12	18'41	60年代，社会治安好，人际关系好，邻里关系风气好 …in 60s, the society was safer, the neighborhood and interpersonal relationships were better…	不去养老院，想留着孩子身边；培养了吃苦耐劳的品质，诚信很好
		F-11		跟同学的友谊 the friendship with the former classmates	过去的年代比较单纯
		F-25	22'12	…I have experienced the transition time of National Revelutionary in 50s and 6os, and I was happy of being with so many mates, not like residents in a "prison" nursing home. It would nice to back to that old days/collectivism oriented time for me…	满足感，自豪感
Being creative	Handcraft works	F-3	13'21	手工刺绣 …..I am good at the handcraft of embroider in my whole… when I am bored, I do it…	绣花活动；不会那么无聊
		M-15	9'10	绿化工作 ….I like nature and I like working here as a gardener…	子女不应该让老人去养老院，太孤单没有孩子陪伴
	Enojy the time at work	F-4	16'32	大学时光…luckily I was elected to university and served for our country and goverment	不想去养老机构，因为看见多位身体不便的老人给自己的心理压力太大，特别会经常了解有人过失。小狗给自己很多快乐，还有小朋友的叽叽喳喳的生活。希望在家里养老。为国家服务光荣使命感。
		M-23	11'02	教师工作，学生取得好的进步 everytime when I got some information of my students's success, I am so proud of it.	家庭养老，只有生活不能自理的时候会去养老院
	Receive the sense of self fulfillment; serve to the country	M-1	20'31	毛时代，治安稳定，自己种地，食品安全。 I miss the Mao Time because of the social securty, safe food, and harmonized madeship …..	
		M-3	21'09	公家分配工作，为工厂创造了效益，结交了很多朋友，或者旅游 as long as I were at work with my nice colleagues, it brought me happiness and fulfillment…	不去养老院，想留着孩子身边；工作让我充实
		M-18	10'04	把工作做好就美好 ….life is beautiful because of my job…	子女很成功，自己仍想为国家服务
		M-24	5'21	共产党让我的生活产生转变 ….Communist changed my life….	希望自助和协作养老，把年龄，性格相似的人聚在一起养老
	Singing and dancing	F-26	21'34	when I was young, it was in "propaganda" time of the Mao Time, which are song singing and dancing. Although the time is changed, singging or dancing were becoming as my hobbies…. This is part of my life. …I love to share my happiness with others, it brings me satisfaction…	

Appendix 3

The questions were prepared for the interviews-oriented survey at the Bo-Ai senior home

Interviewee's Last name: Sex: M/F Previous Career:

Question 1: (define the main problem in elderly care services right now)

What are the main problems of the current care service at the Bo-Ai home in your personal opinion? Why?目前您觉得博爱养老院最需要解决的服务是什么？为什么？

Question 2: (explore the possibility for solving the problem)

What are the top three things that you personally think elderly care (services) should be combined with? And why? 就您个人而言，您理想中养老服务最应该与哪些事情相结合？为什么？

Question 3: (looking for the potential participatory designers)

The Bo-Ai senior home asked me to make some changes. Are you willing to join us to do that? 博爱养老院邀请我们对其养老服务进行改变，您是否有意愿参与我们？

Appendix 4

The question preparation for semistructured interviews and group discussions in the Jin-Ding project.

Interview Location: Interview Duration: Interviewer:

Interviewee's Last name: Sex: M/F Previous Career:

Question 1: (Aiming to define the 'good old days' themes)

'曾经的美好经历'这个词，能让你第一时间想起来的是什么事情？

According to the 'good old days', would you like to share some experiences or memories with us?

Question 2: (Aiming to find out the reason why the 'good old days' are important for the elderly)

你觉得这件事情，或者发生在你身上的'曾经的美好经历'对你现在的生活有什么影响？Why they are significant to you? And how have these experiences influenced your life until now?

(**Alternative question:** *Could you use three to five words to describe what feeling the 'good old days' bring to you?*) 您会怎样描述'曾经的美好时光'？给出3个关键词

Question 3: (aiming to identify the needs of the 'good old days' in elderly care)

我们这个问卷是用在养老服务上的。您觉得您的'曾经的美好经历'可以跟养老服务做哪些结合？How could you imagine which 'good old days' you integrated into elderly care service? Do you have any suggestion how to use 'good old days' in elderly care? And why?

(**Alternative question:** *maybe you can give us two or three good suggestions?*) 或许您可以给出2-3个好的建议？