

# **We care: Care for Elderly Mental Well-being at a Distance**

By

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## **Abstract**

The global population is rapidly aging, leading to an increase in the number of elderly individuals requiring care and support. Meanwhile, the birth rates in many countries are declining, which means a relative decrease in the number of young caregivers while the demand increases. The One-Child Policy limited many Chinese families to single-child households from 1980 to 2016, creating a shortage of caregiving for the elderly. The elderly in need of care have fewer children to ‘guard against old age,’ as per a Chinese proverb. Consequently, the One-Child Policy burdened adult children who cared for their aging parents and grandparents. This research addresses common mental illness care concerns impacting elderly individuals in families facing these circumstances and explores ways to support their younger caregivers.

The COVID-19 pandemic has further exacerbated the issue of remote care, heightening the sensitivity of the elderly and intensifying their sense of loss due to physical decline with age. As a result, the demand for accessible and barrier-free design has become increasingly critical. To address this complex issue, this research employs participatory and interview methods to investigate the factors contributing to psychological changes in elderly individuals.

The scope of the research includes interviews with professionals and adult children as caregivers, conducting autoethnographic research, journaling and observations to gain further insights into the psychological challenges currently faced by the elderly. The project aims to provide an in-depth understanding of the changes experienced by the elderly and clarify the social and cultural factors associated with these changes. The ultimate goal of the research is to support a digital mental health tool designed for distant caregivers who often find themselves under immense pressure while caring for the elderly, addressing the critical need to proactively understand and tackle potential mental well-being issues in elderly individuals. This digital mental health tool is named “Wecare” - it is tailored to address the specific needs and challenges with the aim of enhancing mental well-being, facilitating communication between caregivers and the elderly, providing education to users, and preventing potential mental illness.

## **Land Acknowledgement**

I would like to acknowledge that this research has taken place on the unceded territories of the Coast Salish peoples, including the Musqueam, Squamish and Tsleil-Waututh nations. Unceded means that this land was never surrendered, relinquished or handed over in any way.

Today, most of BC remains unceded sovereign Native lands, over which neither the Canadian or BC governments have the legal or moral authority to govern. I hope that our words and actions today can help to foster a better understanding of how we can support Indigenous sovereignty as settlers and uninvited guests on this land, and to work to create new relationships with the Original Peoples of this land based in honour and respect.

## **Acknowledgement**

Looking back on my 16 years in Canada, from being an international student to a settled immigrant, I vividly see the conflict between choosing my own lifestyle and returning to be with my family, especially as an only-child living abroad. However, I am not alone; we are a community, many of whom share similar concerns. As an interaction designer, I aim to use research and professional skills to identify issues and propose viable design solutions to help myself and others alleviate the remote caregiving challenge.

I want to thank my family and friends for their understanding and support, particularly their assistance throughout my research journey.

I want to express my gratitude to my supervisor, Dr. Garnet Hertz, for his invaluable guidance, constant supervision and encouragement throughout this journey. His responsibility and patience were instrumental in the successful completion of this thesis.

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## Keywords

aging, mental health, elder care, remote care, remote communication, remote connection, digital mental health tool, user experience design, interaction design, service design, health design.

## Motivation

The One-Child Policy was implemented nationwide by the Chinese government in 1980 and ended in 2016.<sup>1</sup> Over the 36 years, the policy caused many negative consequences. The birth and fertility rates declined as sons were generally favoured over daughters; consequently, China's gender ratio tilted in favour of men. The relaxed policy from one child to two children resulted in a statistically significant decline in the male over female gender ratio at birth (Tang et al., 2022). Meanwhile, the second wave of Chinese emigration to the West started in the late 1970s (**Figure 1**).<sup>2</sup> Many Chinese choose to study, work and live abroad. As a result, those only-child and their parents live at a distance.

The One-Child Policy changed parenting in most Chinese families in two ways (**Figure 2**). In the previous generations, parents could expect many children to support them in old age. For the current generation, parents have no other option but to rely on one child for support. Children have been brought up in circumstances very different from those relationships of filial piety in which elders were the focus of the family (Chen et al., 2021). The contemporary only-child caring for parents and grandparents is a relatively new 4-2-1 family structure (four grandparents, two parents, and one child) (Jiang & Sánchez-Barricarte, 2011), placing a high emotional burden on the only-child.

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<sup>1</sup> The One-Child Policy was a Chinese government initiative introduced in 1980, restricting most Chinese families to having only one child. This nationwide program, aimed at curbing the rapid growth of the country's population, remained in effect until its discontinuation in 2016. The policy originated from the government's concern that the rapid population growth could compromise the nation's development. The unique challenge arose from the sheer size of China's population and its predominantly youthful age structure, which was perceived as a potential obstacle to overall progress.

<sup>2</sup> The Second Wave of Chinese Emigration refers to the movement of Chinese people from the mid-19th century to the early 20th century, following the earlier phase known as the Coolie Trade or the First Wave of Chinese Emigration, which mainly occurred during the 19th century. The second wave saw significant Chinese migration to various regions, including Southeast Asia, North America, Australia, and other parts of the world.

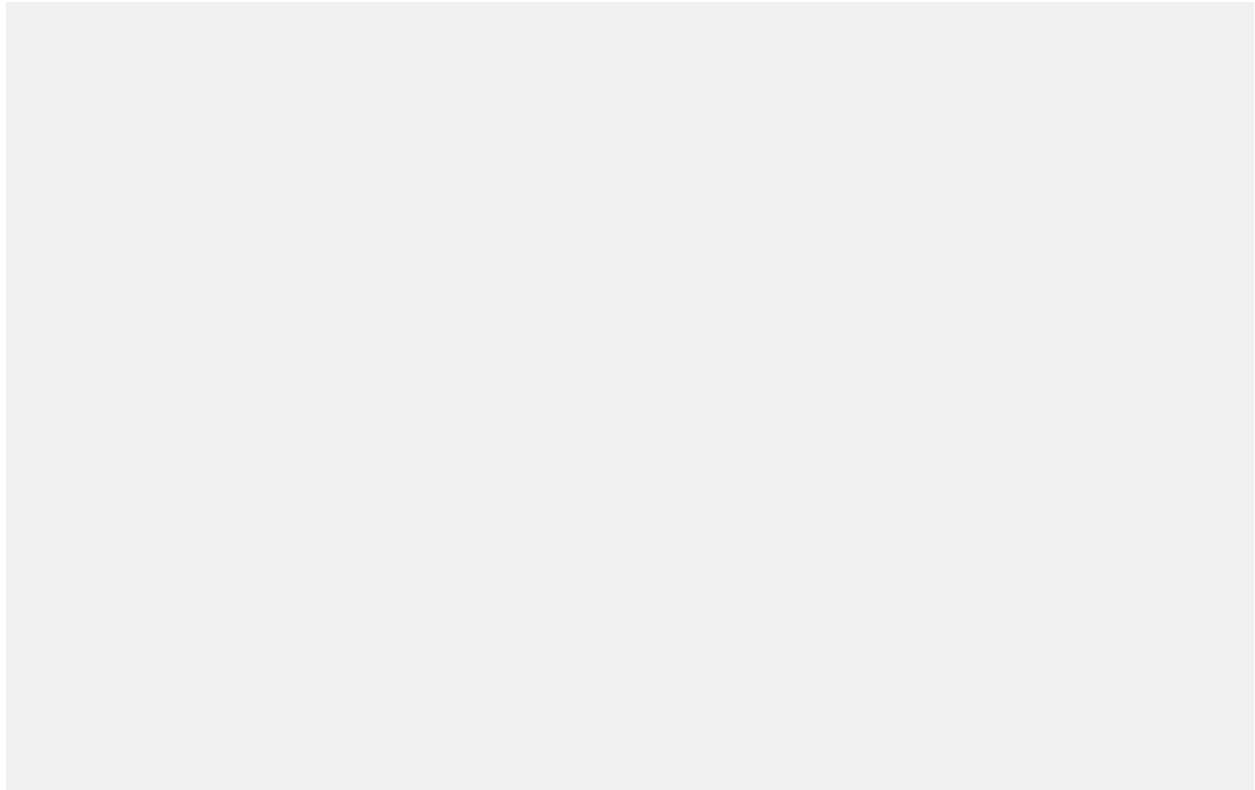


Figure 1: Immigration numbers surged during the period of The Second Wave of Chinese Emigration. (Source: China Immigration Statistics from 1980-2017, data source: The World Bank, <https://www.macrotrends.net/countries/CHN/china/immigration-statistics>).

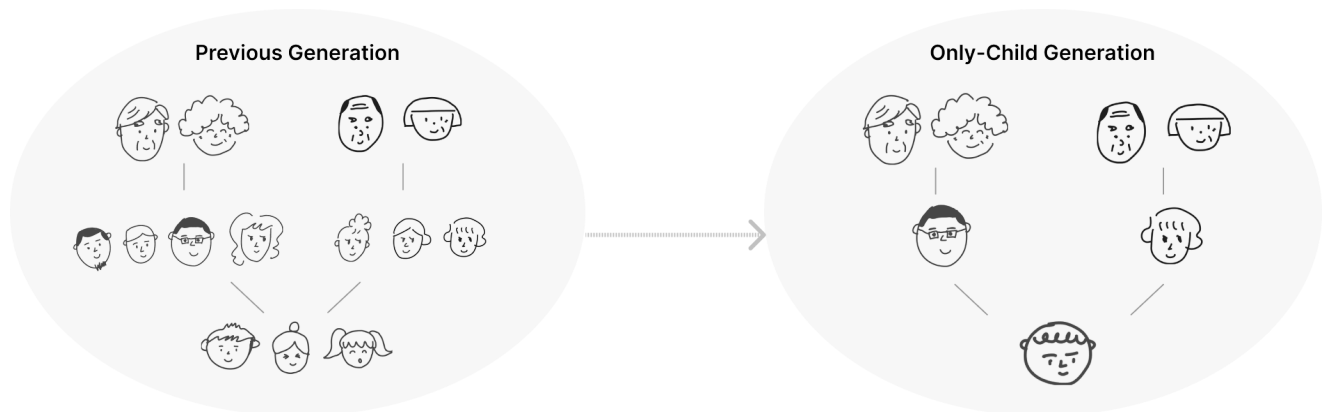


Figure 2: The way of parenting changes over time. (Source: Violet Zhang)

The global impact of the COVID-19 pandemic has heightened awareness of remote care<sup>3</sup>, particularly for elderly individuals residing in different countries or separated from their families. This scenario encompasses elders living in long-term care homes or those who live alone, emphasizing the need for an in-depth examination of their mental well-being during such times (Gerritsen & Voshaar, 2020). Despite the increasing focus on remote care, there remains a noticeable gap in attention regarding the mental health of the elderly. The predominant discourse often centers on physical health, overshadowing the equally critical aspect of mental well-being. Hence, there is a pressing need to pay more attention to the mental health needs of the elderly, considering they endure social isolation for extended periods (Lee et al., 2020). This gap underscores the importance of investigating and addressing the unique challenges that elderly individuals face in maintaining their mental health while receiving remote care. Telemedicine, as a cost-effective, convenient, and accessible healthcare delivery method that has been utilized for several decades before the COVID-19 pandemic on a limited scale, mainly due to professional, technological or legal barriers (Doraiswamy et al., 2021; Hassan et al., 2021). Yet, the COVID-19 pandemic increased the need and growth of telehealth, bringing about a notable shift in how it is viewed and its role within healthcare systems (Smolić et al., 2022).

However, the existing resources and tools predominantly target physical care, leaving a significant void in comprehensive support systems that consider the mental and emotional needs of both the elderly and their caregivers. The lack of specialized products for mental health care in the remote caregiving context necessitates research to identify gaps in available resources and explore potential avenues for developing tailored solutions. By understanding these dynamics, the research aims to enhance remote care practices, promoting holistic well-being for elderly individuals and those responsible for their care.

## **Framing Research**

Adult children living overseas with aging parents residing in their home country face unique challenges in providing remote care. In households where individuals reside in close proximity, the feeling of togetherness often arises naturally as they sense each other's presence within their

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<sup>3</sup> Remote care refers to the delivery of healthcare services, monitoring, and support from a distance, usually facilitated by information and communication technologies. In the context of this research, remote care specifically involves individual families with the only-child as the main caregiver who lives apart from the elderly in different countries.



shared surroundings. Nevertheless, this sense of togetherness shifts when individuals no longer reside in the same place, prompting different ways of experiencing this connection (Shakeri et al., 2023, p. 1). After discussing with family and friends, I observed that when they live far away from their parents, it is challenging to balance personal preferences and familial obligations, and they may hesitate to invite their parents to live with them in a new country due to concerns about their parents' ability to adapt to a different environment. Moreover, they usually have a sense of guilt that they cannot provide care for their parents and are pressured to balance their own needs and responsibilities with their parent's well-being. The problem of remote care has become more serious since the pandemic, and the elderly have become more sensitive with a prominent sense of loss as their physical abilities decline with age (Aging Changes in the Senses, n.d.; Pitt, 1998; Charles & Carstensen, 2010 ). As a result, the need for accessibility and barrier-free design (which aims to create inclusive environments for people of all abilities) is growing, leading to the creation of numerous products that cater to the care of aging parents. However, as the result of my previous desk research, I observed that these products on the market primarily focus on the physical health and accessibility of the elderly while neglecting the importance of their mental health.

The goal is to significantly enhance the comprehension of mental health concerns among the elderly population, both within their own awareness and that of their caregivers. By emphasizing the importance of open communication between caregivers and the elderly, I aim to facilitate stronger connections and prompt identification of potential mental health issues. Through early recognition and proactive measures, I aspire to prevent these problems from arising.

### **How can we design a solution that addresses the factors influencing the mental health of the elderly, particularly in the context of remote caregiving?**

This question takes into consideration the unique challenges faced by only-child caregivers in Canada and the elderly in China for Chinese families. By examining this particular demographic as a case study, the research goal is to comprehend challenges and develop a reference framework for supporting families, potentially inspiring families in other cultures with the same only-child family pattern.

This project conducted field research on Chinese families in China and Canada as case studies to explore the daily caregiving challenges, thereby inspiring help for the wider population. It will

not involve professional mental health diagnostic tests for use in professional clinics but rather integrate issues found in research to design a comprehensive tool to help caregivers care for the elderly, especially on being aware of mental health care.

## **Why**

Numerous individuals living apart from their families perpetually grapple with the challenges of remotely tending to their aging parents, a situation particularly pronounced within Chinese households characterized by an only-child dynamic. Predominantly, the focal points for many such individuals involve augmenting communication frequency with their parents and ensuring their physical well-being and safety. However, a conspicuous oversight lies in acknowledging the paramount significance of mental well-being as parents advance in age and comprehending the intricate strategies for managing the stress associated with distant caregiving for the elderly.

This study is primarily tailored to address adult offspring who have assumed the role of remote caregivers while dwelling abroad, specifically targeting those residing in Canada. In addition, the secondary audience encompasses elderly parents residing in their country of origin, China.

## **Literature Research: Previous Studies**

In the journal *Mental Health and Wellbeing of Older People: Opportunities and Challenges*, it is noted that over 20% of individuals aged 55 or older may experience some form of mental health issues. Biological changes can affect brain function, social changes may lead to isolation or feelings of worthlessness, and physical illnesses are often significant contributing factors. Mental health issues seriously impact elders' ability to perform basic daily activities, reducing their independence, autonomy, and quality of life. The first step in mitigating these negative consequences is diagnosis. Unfortunately, mental health problems often go undiagnosed and untreated, leaving many elders struggling without appropriate assistance or any assistance at all. Few mental health providers receive specialized training in caring for elders, and many harbour a range of societal biases. This therapeutic pessimism among healthcare professionals suggests a belief that elders cannot change, making psychiatric care seem futile at their advanced age. Thus, there is minimal investment in developing policies, strategies, programs, and services for elders with mental health issues (de Mendonça Lima & Ivbijaro, 2013).

During the literature research, several studies focused on various aspects of mental health among elders for remote care. These topics include ageism and psychological well-being among elders (Kang & Kim, 2022), potential digital solutions for remote monitoring of mental health for elders (Ianculescu et al., 2023), remote social contact to protect mental health among elders (Hawkley et al., 2021), remote healthcare for elders during Covid-19 Pandemic (Smolić et al., 2022) and more. Although there are various studies from the perspectives of sociology (Clarke et al., 2011), economics (The Silver Economy, 2017), and healthcare systems (Prince et al., 2007), more studies are needed that consider research findings as user pain points to inspire the design solution from the field of interaction design.

## **Research Phase 1 - Background Investigation**

### **Methodology**

I conducted autoethnography, journaling, observation, and interview methods to address the research question. I also attended online conferences and processed literature reviews during the summer field research. Emily Carr University's Research Ethics Board (REB) approved this study on July 5, 2023. See Appendix B: Research Ethics for a detailed overview of the REB process used.

The research undertaken for this thesis involved an extensive review of relevant literature to establish a comprehensive foundation for the study. A total of 20 scholarly articles, peer-reviewed journals, and authoritative books were examined to understand the current state of knowledge in caring for elderly mental well-being at a distance from different aspects. The literature review aimed to clarify the background and identify key theories, methodologies, and gaps in existing research, providing a nuanced context for the subsequent investigations. The analysis involved categorizing the literature into thematic clusters, highlighting recurring trends, and synthesizing findings to summarize and highlight each agreement and disagreement in the literature.

I had many conversations with my grandparents and other family members during the autoethnographic study. I observed and journaled what happened when I took my grandparents to the community clinic for physical examinations, experienced the current healthcare system, and learned about government policies in Jiaxing, Zhejiang, China. Moreover, I interviewed one

counsellor, one professional caregiver, and five adult caregivers who are only-children in their families in Vancouver, BC, Canada.

I designed two sets of open-ended questions for interviews with two experts and five caregivers to understand their feelings and difficulties during the caring time.

### **Data Collection and Analysis**

All interviews were audio recorded, and notes were taken during each session. All audio files were transcribed; I transcribed part of the audio, and Otthor.AI transcribed some of it. I analyzed and summarized the collected data. All data collection processes for this research followed ethical standards and received formal approval from the Research Ethics Board. A few leading questions are below, and these questions also helped during the script analysis:

- What is caregiving, and who provides it?
- What are some common mental health problems among the elderly?
- What causes mental health problems?
- How do caregivers and elders know about mental well-being?
- What are some concerns that caregivers had during remote care?
- How do caregivers and the elderly usually communicate? What device and communication tools do they usually use?

### **Observations**

People commonly perceive the elderly as a vulnerable group. However, according to research, elders had a higher likelihood of associating emotional events with knowledge-acquisition goals than younger adults. Additionally, elders demonstrated a stronger preference for recording positive events related to knowledge acquisition, indicating a positive effect in the context of social goals (Ji et al., 2017, p. 7). The bias can stem from stereotypes and assumptions about their physical and cognitive abilities and societal perceptions of aging. However, it is crucial to recognize that the elderly population is diverse, and individuals within this group have unique strengths, experiences, and capabilities.

In the observations, elderly individuals often seemed less concerned about living independently away from their children. Still, they tend to conceal their difficulties to avoid burdening their offspring. What is interesting is that many elders have confidence in their ability to care for

themselves and often favour their own approaches over scientifically tailored ones, particularly in areas like diet. For example, one interviewee responded as follows:

*“Recognize that as an only-child, you will have to make many decisions on your own to help and care for your parents. At the same time, you will want to respect their wishes.” - Interviewee A*

One interesting fact that emerged from a story while interviewing a caregiver is that major medical procedures like heart surgery can lead to depression and cognitive problems, and few people knew this fact until it happened. For example, other individuals described this dynamic in the following way:

*“Grandma doesn’t want to live with us, she needs her own space. However, she recently had heart surgery, and at first she didn’t notice that she was physically declining after the surgery. Later, she felt emotional changes and was very agitated at night. We took her to the hospital for tests and examinations and she was diagnosed with depression. We realized that there is a high probability of depression after heart surgery.” - Interviewee B*

The common mental illnesses<sup>4</sup> among the elderly are anxiety, depression, and dementia, confirmed during the expert interview by Sonia Mirani, who has been nursing in a senior care home in Vancouver, BC, Canada, for 13 years. Mental well-being is an essential aspect of end-of-life care that is often neglected:

*“I think being mentioned that the mental well-being part and then the end of life part is like not only kind of plan ahead and then the physical pain but also like mentally how the whole family can go ahead and go through with this process.” - Sonia Marani*

Moreover, according to an interview with the Counsellor Ying Ma from Beijing, China, she mentioned a small number (about 5%) of visitors were elderly, a few of whom came to the counselling on their initiative. Most of them were coming because their children booked the appointment for them. However, the elderly are used to solving problems independently instead of asking for help, and most elderly visitors want counsel on managing their relationships with

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<sup>4</sup> Common mental illnesses refer to mental health conditions that are prevalent and frequently encountered in the general population. These disorders affect individuals’ thoughts, emotions, behaviour, and overall well-being. In this research, the common mental illness among the elderly includes anxiety, dementia, and depression.

their children and family. Very little is self-centred and involves self-awareness (Y. Ma, Expert Interview, July 20th, 2023).

On the other hand, caregivers, especially those who are solely responsible for their parent's well-being, find themselves in a challenging role and notice that sometimes caring for the elderly is a stressful experience, especially after major medical procedures. Caregivers expressed a positive impact of digital mental health tools: mobile apps provide skill building for caregivers, while web-based services provide skill training or skills exercising and education on their well-being. Therefore, combining the format of digital tools can lead to creating a useful mixed tool for addressing the caregiver's mental health, burden, and stress at the more general level. Key aspects such as coping skills, emotion regulation, skill development, and education were highlighted as crucial elements of these tools. However, it was observed that there is a shortage of digital mental health tools explicitly designed for the caregivers of elders (Petrovic & Gaggioli, 2023).

## **Problems**

The issues highlighted in this research cover various aspects of elderly care, including but not limited to challenges related to facility management, incongruent government policies and community services, caregiver pressure, communication issues, cognitive conflicts between caregivers and elders, elders' social connections, and living environments.

Firstly, the community clinic presents challenges such as less seating, accessibility issues, and limited parking, making it a less-than-ideal environment for elderly patients seeking medical attention. Additionally, there needs to be more focus on health and wellness initiatives. The community clinic's health and wellness bulletin board publicity includes emergency care knowledge, infectious disease prevention and control, and lung health knowledge. In addition, in the National Standards for Basic Public Services in China, there is only one report or service related to mental health: the management of patients with severe mental disorders (National Development and Reform Commission (国家发展改革委). (2023, August). National Standards for Basic Public Services (国家基本公共服务标准) <https://www.ndrc.gov.cn/xwdt/tzgg/202308/>

[P020230810405141147781.pdf](#)). It does not include general counselling and examination or provide counselling or a service hotline. However, a simple search on the internet will reveal a national free counselling hotline. Whether the hotline truly exists or works – or if anybody can use it is debatable. Or do the state services need to be better linked to the region's health care system?

Secondly, government policies and community services for the elderly appear mixed. While some policies and benefits are appreciated, there is inconsistency in the quality and standardization of facilities and services across different communities. This lack of uniformity can lead to disparities in the care and support received by elderly individuals.

The senior activity center in Jiaying, Zhejiang, China, where my grandparents live offers several rooms and amenities like a dance room, ping pong room, daycare room, and meeting room. Unfortunately, most of these rooms are locked and have limited access, and the centre situated on the second floor with no elevator does not seem well-suited to the needs of the elderly. These facilities were created more for appearances and to meet simple community building standards rather than to cater to those in need. The responsibility for activities, including cleaning and organizing, mainly falls on the elderly, as the community workers do not take much initiative (**Figure 3**). This underscores the importance of aligning community services with the actual requirements and capabilities of the elderly community members.

In addition, communication between caregivers and the elderly has also changed over time. The expression of emotions varies due to the manner of expression, life experiences, and cognitive differences. Research shows that emotions are not universal but deeply rooted in cultural and linguistic contexts, and people may not notice the changes when they become bilingual after the migration (Besemeres, 2004, p. 157). With the diversity of cultural approaches to emotional behaviour, the nonverbal communication of feeling is as salient as emotional concepts, idioms, or expressive forms (Ye, 2003). Moving into a new language makes us see that our feelings, once thought to be personal, are partly shaped by culture. For those who speak two languages, deciding how to express emotions can be a struggle, as each language comes with its own cultural norms. In autobiographical texts, specific words, ways of talking, expressions, and even deliberate silences in conversations highlight that different languages may express emotions differently (Besemeres, 2004, p. 157).



Figure 3: Images reveal a consistently locked daycare center; inaccessible steps to the elderly activity center, only display of physical health instructions in the community clinic, and a complicated online booking system unsuitable for the elderly. (Source: Violet Zhang, Jiaxing, Zhejiang, China, July 2023) (A full-size version is available in Appendix A)

Lastly, the research raises the importance of caregivers' mental health during the caring process. Caregiving embodies the characteristics of chronic stress: It induces both physical and psychological strain over extended periods of time, comes with high levels of unpredictability and controllability, generates secondary stress across various aspects of life, such as work and family dynamics, and often demands heightened levels of vigilance (Schulz & Sherwood, 2008). Caregivers often experience high levels of stress, anxiety, and depression, and digital mental health tools can potentially provide much-needed support and resources (Petrovic & Gaggioli, 2023, p. 7).



## **Results**

Research and literature review show elders have a strong ability for self-care and a determination to pursue social goals. Elders demonstrated significantly enhanced verbal fluency when faced with decision-making tasks of high personal relevance (Jin et al., 2019, p. 7). This highlights the importance of actively empowering them to maintain mental and emotional health.

Mental health cannot be considered in isolation, there is a sizable and robust relationship between physical and psychiatric morbidity (Carstensen, 2012); it is linked to many factors, such as physical changes, environmental shifts, language barriers, religious beliefs, personal preferences, lack of trust in mental health, self-confidence, etc. However, the acceptance of talking about mental health varies widely among individuals and families. The stigma associated with mental health problems can contribute to this ignorance, making it essential to promote open dialogue and understanding within communities and families to ensure timely support for those in need.

In addition, safety is always the first concern in remote care; because of distance and time, there are fewer ideas and topics to share with parents. It is often more about listening and helping. As caregivers take on the responsibility of caring for elders, the increased stress affects their immediate caregiving role. It causes them to think about their retirement and future well-being. Caregivers face the dual challenge of protecting their mental health while providing essential care to their elderly loved ones.

Finally, experts in the field emphasize the importance of mental health; sometimes, it should be prioritized over physical health. However, practical mental health tools, digital mental health tools and assessments remain limited.

## **Research Phase 2 - User Behaviour Research**

### **Methodology**

I conducted a secondary analysis of user behaviours to enhance the product's inclusivity and improve user experience. Initially, I engaged with various mental health related applications and explored websites dedicated to educating elders about health issues. I conducted a thorough product analysis on these platforms. Additionally, I conducted participatory research and volunteered for four weeks in the "On the Digital to Go" workshop in November 2023 to teach

digital literacy to elders. About 35 elders were in the workshop, alongside the instructor, I helped groups of elderly individuals learn how to download, register, log in, and utilize applications.

### **Data Collection, Mapping and Analysis**

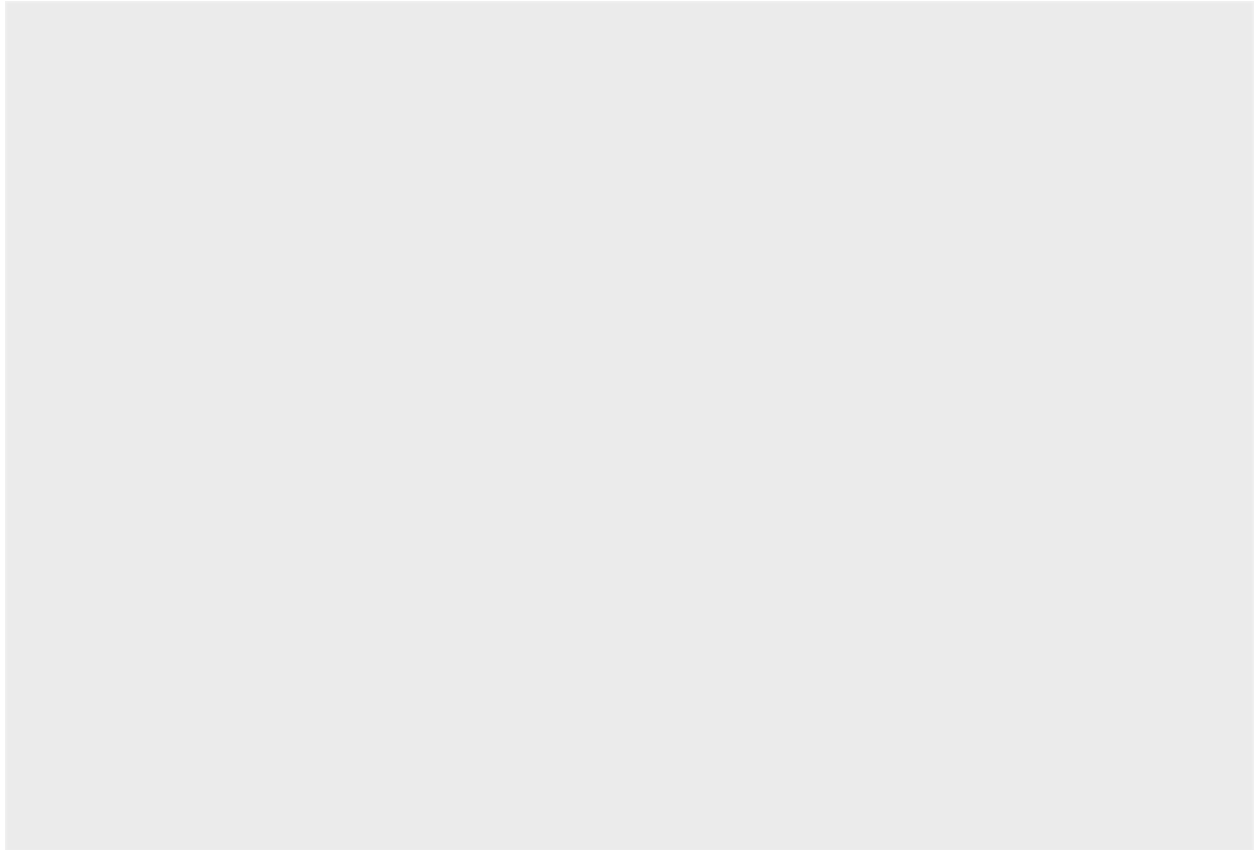
For the secondary research phase, data collection involved capturing screenshots from several applications and websites related to mental health and elders' health education. These screenshots served as the primary source material. A spreadsheet was utilized to analyze this data effectively for mapping, categorization, and feature analysis. The spreadsheet enabled a structured breakdown of the gathered information, allowing for a comprehensive evaluation of the features and functionalities present in the applications and websites. During the participatory research phase, observations were made by taking pictures and maintaining detailed notes. The combination of visual documentation through note-taking allowed for a comprehensive and firsthand exploration of the challenges of the elderly while navigating applications and learning digital skills. All data collection processes for this research were conducted in accordance with ethical standards and received formal approval from the Research Ethics Board at Emily Carr University.

### **Observation**

The Petrovis and Gaggioli article "Digital Mental Health Tools for Caregivers of Older Adults" mentioned a noticeable absence of digital mental health tools designed to assist caregivers, with a total of forty-four applications marketed for this purpose in their research. However, only eight comprehensive apps addressed three or more categories beyond information and resources, communication, and caregiver-recipient interaction. (Petrovic & Gaggioli, 2023). These eight applications are Alzheimer's Caregiver Buddy, Balance: for Alzheimer's Caregiving, CareZapp, Carezone, Care4Dementia, Dementia Caregiver Solutions, HABC, and Kinto: Care Better. Although numerous applications offer features proven to ease caregiver burdens and enhance health outcomes, only a limited number offer emotional support. (Grossman et al., 2018).

From secondary research, I noticed that most mental health-related applications emphasized teaching methods for emotional relief or were directly instructed on meditation techniques and offered various meditation courses, such as Headspace, Calm, Mindshifting, BetterMe: Mental Health, etc (**Figure 4**). However, those websites for knowledge sharing with the elderly were

text-heavy, despite categorizing the content, which made the information seem cluttered and burdened readers during navigation. Moreover, these apps largely offer comparable services focused on soothing emotions. However, they need to inform users about how these emotions arise, how to identify them, and how to address them, and very few of them are for elders only.



*Figure 4: Most mental well-being applications focus on relaxing, soothing the mood, and leading users to do meditation. (BetterMe: Mental Health, Clam, Mindshifting. [Mobile app]. App Store. <https://www.apple.com/ca/app-store/>)*

Moreover, I observed from the “On the Digital to Go” workshop in November 2023, which taught digital literacy to elders, that many elders were using phones and tablets as their primary learning devices (**Figure 5**). The intricate registration processes were confusing and challenging to complete. Additionally, they needed clarification and struggled with the actions requiring secondary confirmation. This gave me a new understanding of the user experience for elders using applications.



*Figure 5: Elderly individuals primarily use phones or tablets as their main learning devices, often with larger font settings. (Source: Violet Zhang)*

## Problems

Throughout the research, I have identified varying degrees of lack of accessibility and complex registration procedures for the products. Most of these products focus on delivering a solution to the customer. Few serve as an assessment tool that aids in understanding the process. However, in the complex realm of mental health, the process is a crucial component. Early identification and a proper understanding of vulnerabilities hold significant meaning. Moreover, many products and applications are designed for individual use, emphasizing self-relief and seeking help alone. Yet, it is widely recognized that mental health, regardless of the stage, requires external support in life's journey.

## Results

The research has systematically reconsidered the objectives, functionalities, and user experience I aim to cultivate in product development. Drawing insights from the workshop experience, the design approach will prioritize a simplified registration process, minimizing unnecessary clicks and ensuring a seamless, transparent user journey.

## **Wecare**

### **An Introduction to Wecare**

Wecare is a digital health tool designed to improve remote caregiving for the mental well-being of our elders. It offers general online assessments, monitoring aids, caregiving tips, mental health literacy blogs, and integrated public resources. Caregivers and elders can easily onboard Wecare and access all features for free. Our mission is to advocate for the importance of mental health in elderly care, facilitating better connections between caregivers and elders while addressing potential psychological issues positively and effectively.

### **Wecare Design Goal**

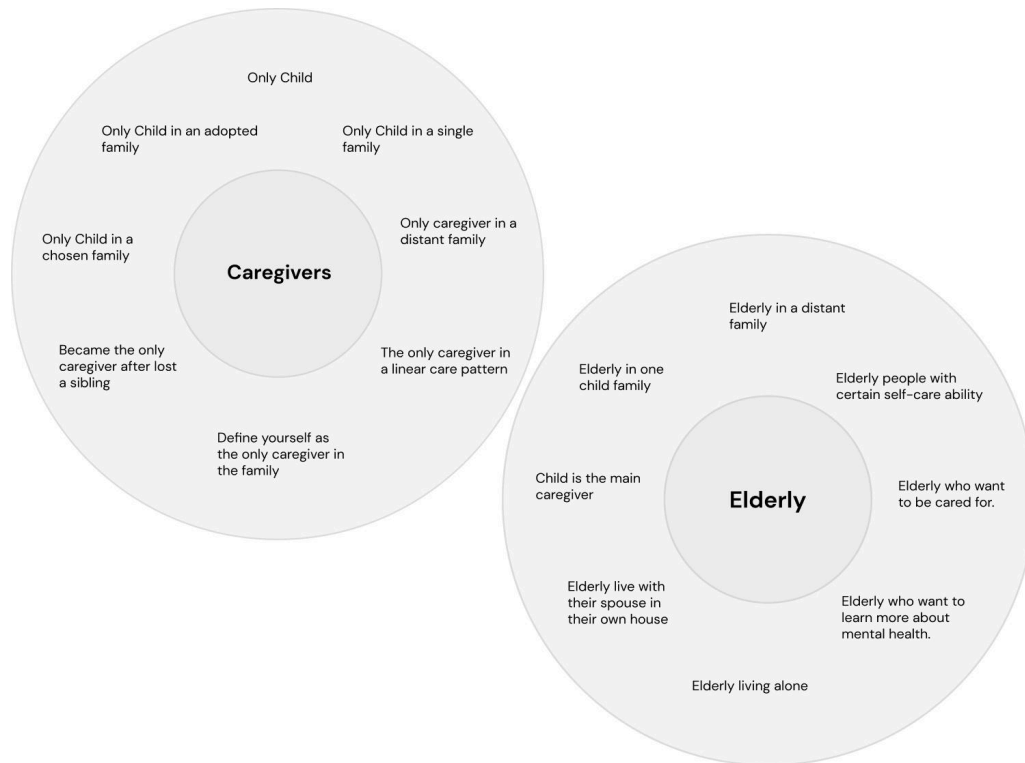
Bridge the gap in mental health literacy by raising awareness of several critical aspects:

- a.) The correlation between the physical decline of the elderly and its potential impact on their mental health.
- b.) It Is important for caregivers to recognize and manage their mental health amidst their responsibilities.

Wecare is a digital health tool for distant caregivers, who often find themselves under the immense pressure of looking after the elderly. It addresses the critical need to proactively understand and address potential mental well-being issues that can arise in elderly individuals. The product will be presented as a responsive web application suitable for websites, tablets, and phones.

### **Definition of Audience**

Wecare's primary audience encompasses includes adult children who identify as caregivers, a diverse group that includes single-family members, adopted family members, and chosen family members. Furthermore, primary and secondary users can include families who have lost a sibling and now find themselves as the sole caregiver in their current circumstances (**Figure 6**). These individuals are bound by their love and responsibility for their elderly parents or relatives.



*Figure 6: The diagram shows the range of caregivers and elderly people involved in the project.  
(Source: Violet Zhang)*

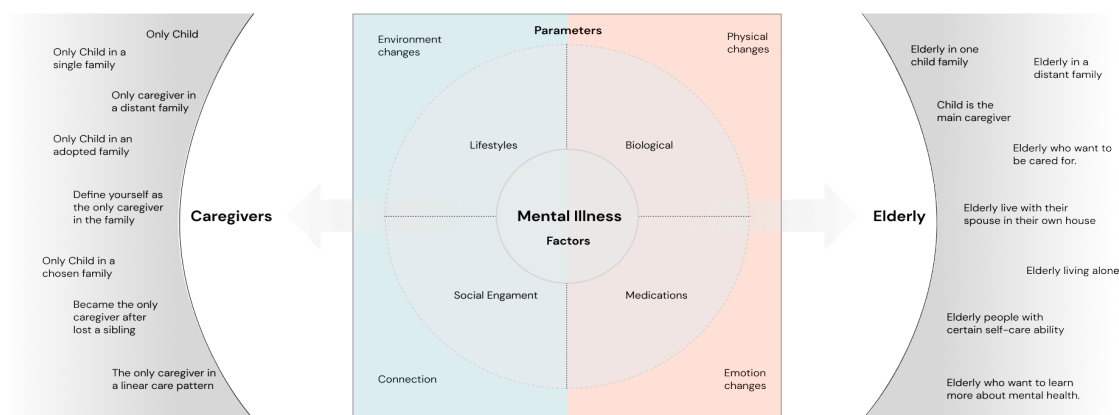
## Design Criteria

The research focuses explicitly on linear care patterns for distant family dynamics and the experiences of newcomers to a country. The linear care pattern, or intergenerational caregiving, refers to the caregiving arrangement where the younger generation, typically adult children, are responsible for caring for their elderly parents or grandparents. This 4-2-1 pattern of care has been a traditional and prevalent approach in many societies and families (Jiang & Sánchez-Barricarte, 2011). This decision is rooted in the understanding that these scenarios often present distinct challenges in providing care and maintaining the mental well-being of elderly individuals. These caregivers may navigate the complexities of providing care from a distance, potentially facing cultural and linguistic barriers when immigrating to a new country.

## Design

The four factors — physical health, medications, social engagement, and lifestyles — are pivotal elements impacting daily mental wellness and were derived from field research. Simultaneously,

this research revealed the influence of these factors on the relationship between elders and caregivers. The four factors form the following four parameters - physical changes, emotional changes, connection, and environmental changes - profoundly shape the content of Wecare as the digital platform (**Figure 7**). The assessment questions will center around these parameters, forming the cornerstone of the evaluation process. The assessment questionnaire will extensively focus on the elements highlighted in blue on the left half of the square; only some basic questions will be asked in the red area on the right half of the square. It is important to note that responses indicating concerns in the red areas may raise a red flag, suggesting the need for further advice and consultation. In such cases, seeking help from professional experts is strongly advised.



*Figure 7: The framework shows the four major factors that affect elderly mental health in daily life. This framework consists of four parts. The left and right edges show the range of caregivers and the elderly respectively, indicating the stakeholders in this framework. In the middle circle, there are four critical factors of mental illness. Surrounding the circle outside are four important parameters of elder mental health care derived from the four factors.*

*(Source: Violet Zhang) (A full-size version is available in Appendix A)*

## Personas

I have identified six distinct personas in mapping through the spectrum of caregiving. Recognizing the intricate nature of caregiving, I have expanded the spectrum to encompass many potential stakeholders within this framework. Adult children, particularly the only-child, assume primary caregiver roles due to their inherent responsibilities. Moreover, secondary, tertiary, or even quaternary caregivers include relatives, professional caregivers, children's friends, elderly acquaintances, social workers, and volunteers (**Figure 8**).

To better understand the caregiving landscape, I have conducted an analysis that involves scenario assessment, needs identification, and the highlighting of pain points. This approach has enabled a comprehensive ranking of caregiving relevance, offering insights into the nuanced needs and challenges experienced across these personas.

Roles	Adult Children (only child)	Relatives (cousins, uncle, aunts etc.)	Professional Caregivers	Children's Friends	Elderly's Friends	Social Works & Volunteers
Relevance						
Scenarios	Lives in a different city from his/her aging parents. She/he is the only child responsible for her parents' well-being.	Relatives are living in the same city. They are the secondary caregivers with in the family who can help to care the elderly who lives alone.	A professional caregiver providing daily care and support for elderly individuals. He/She monitors elderly physical and mental well-being and coordinates with the family.	A friend of the adult children. He/ She occasionally visits and spends time with the elderly person.	A close friend of the elderly person, and they have known each other for decades. They support each other emotionally.	A social worker specializing in elderly care. He helps in coordinating services, is able to caring elderly in general, provides emotional support, and ensuring the overall well-being of the elderly person.
Needs	Regular updates on his/her parents' health and emotional state, access to remote monitoring tools, a reliable support system for her parents in his/her absence.	Clear communication channels with the primary caregiver, after visits or check-ins; also need information about local support services, and emergency protocols.	Access to real-time health data and communication tools for regular updates with family members. Needs more training on managing mental health issues in the elderly, and a collaborative care plan.	Get information on the elderly's preferences, updates on any changes in behaviour or mood, and coordination with the primary caregiver or family.	Regular contact with family and friends, update their regular routine, emotional state, and support in maintaining social connections.	Access to comprehensive medical records, communication with family members, knowledge of local support services, and training on addressing mental health issues in the elderly.
Pain Points	Guilt about not being physically present, concerns about his/her parents' loneliness and mental health, challenges in coordinating remote care.	Limited knowledge about the day-to-day well-being of the elderly relative and challenges in coordinating care with the primary caregiver.	Limited knowledge of the mental well-being of the elderly, challenges in interpreting non-verbal cues, and potential communication gaps with family members.	Limited knowledge about the elderly person's medical history, needs and specific care requirements, challenges in understanding and addressing mental health issues in the elderly.	Friend can empathize and accompany but lacks knowledge about mental health.	Less direct connection with the elderly's family, hard to balance the needs of multiple elderly clients, coordinate with various stakeholders, and be unable to address complex mental health challenges remotely.

Figure 8: The role spectrum elucidates the connections between various caregivers, highlighting those who can provide quick and efficient care for the elderly due to their close proximity in responsibilities and relationships.  
(Source: Violet Zhang) (See full-size version in Appendix A)

### Wecare User Journey

The journey map below illustrates the rationale behind users selecting the product, their expected outcomes, and the tangible benefits they anticipate post-usage. Moreover, it serves as a mirror reflecting the vision for the product, nurturing a positive rapport between the product and its audience (**Figure 9**), emphasizing the importance of building trust. This map also serves as a compass, steering the development of user flow and wireframes in the subsequent phases.

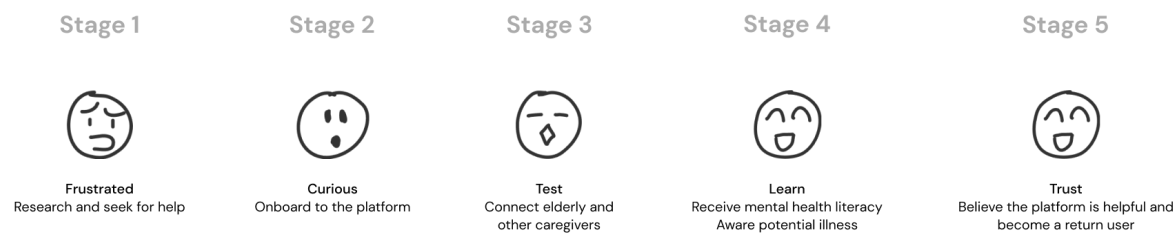


Figure 9: A user journey map that delineates the users' expectations regarding their experience before, during, and after using the product. (Source: Violet Zhang)



## Wecare Features

All the preceding efforts prompted deep contemplation regarding the product's core purpose and the precise needs of the audience. Aligning with the established framework to ensure an improved user journey, I distilled the product's essence into four pivotal features. These features encapsulate the product's mission: fostering connections between the elderly and caregivers, facilitating the monitoring of mental well-being for both caregivers and the elderly, and guiding all users through self-reflection and knowledge-sharing. The details of each feature are listed as a reference for future design and development. (**Figure 10**)

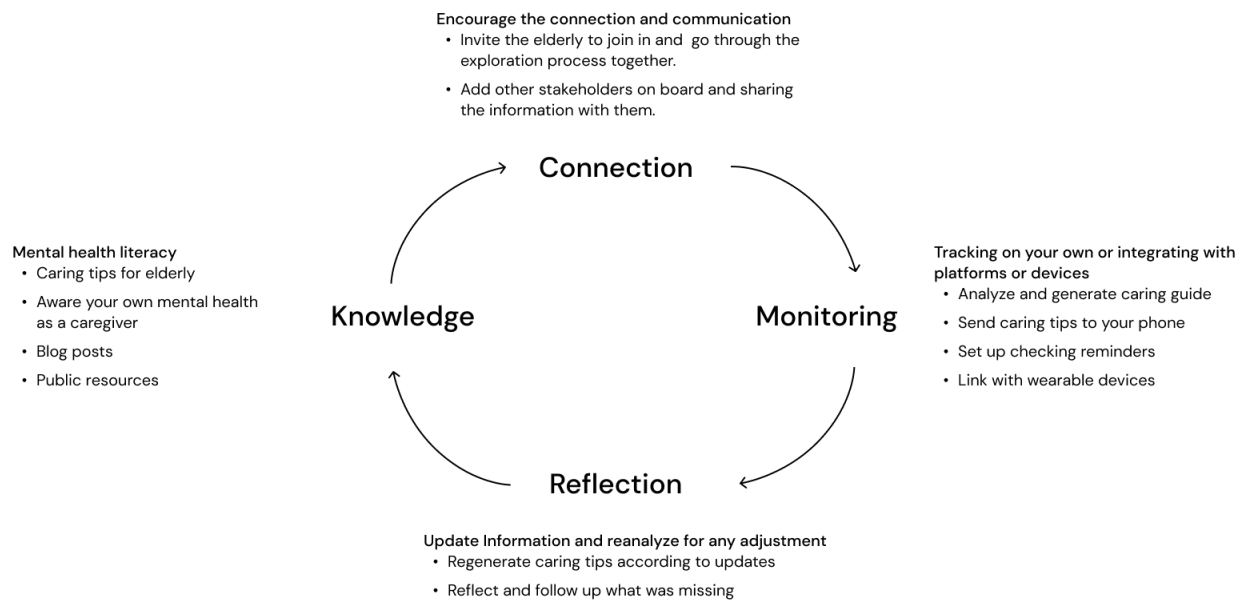


Figure 10: The diagram displaying the goal and primary features that will be incorporated into the product.  
(Source: Violet Zhang)

## Wecare User Flow

The user flow of Wecare showcases the underlying logic and lays the groundwork for subsequent product development (**Figure 11**). Built on knowledge, connection, monitoring, and reflection foundations, the product embodies specific functionalities such as assessment, self-assessment, caregiving tips, mental health literacy, monitoring, and reminders. Assessment results will be saved, allowing users to revisit and modify them while retaining previous test records as a new log for reflection and self-awareness. The current user flow streamlines the sign-up process, ensuring a quick and user-friendly adoption of the product for both caregivers and the elderly. It now only showcases three common mental health issues among the elderly: anxiety, dementia,

and depression, and more features will be developed in the future. Moreover, the product provides caregivers with a self-assessment tool, empowering them to assess their psychological stress levels, understand the challenges they encounter while caregiving, and take proactive steps to make necessary adjustments.



Figure 11: The user flow plans the Wecare platform's logic and helps visualize the structure for further development. (Source: Violet Zhang) (A full-size version is available in Appendix A)

Some features have been specially considered. For example, remote family caregivers can invite professional caregivers or other family members who live closer to the elderly as secondary caregivers, if applicable. Caregivers can invite elders to join and participate in the assessment, facilitating their involvement in the process. Meanwhile, elders can take the initiative to become members of Wecare and proactively focus on their mental health.

## Wecare Wireframe

The wireframe outlines the structure of the web application, aiding in communication and aligning expectations regarding the product's layout and functionality early in the development

process. It also facilitates identifying current shortcomings, allowing for refinement during development. Additionally, the wireframe is an excellent tool for early user testing, enabling me to conduct tests with three pairs of caregivers and the elderly (**Figure 12**).

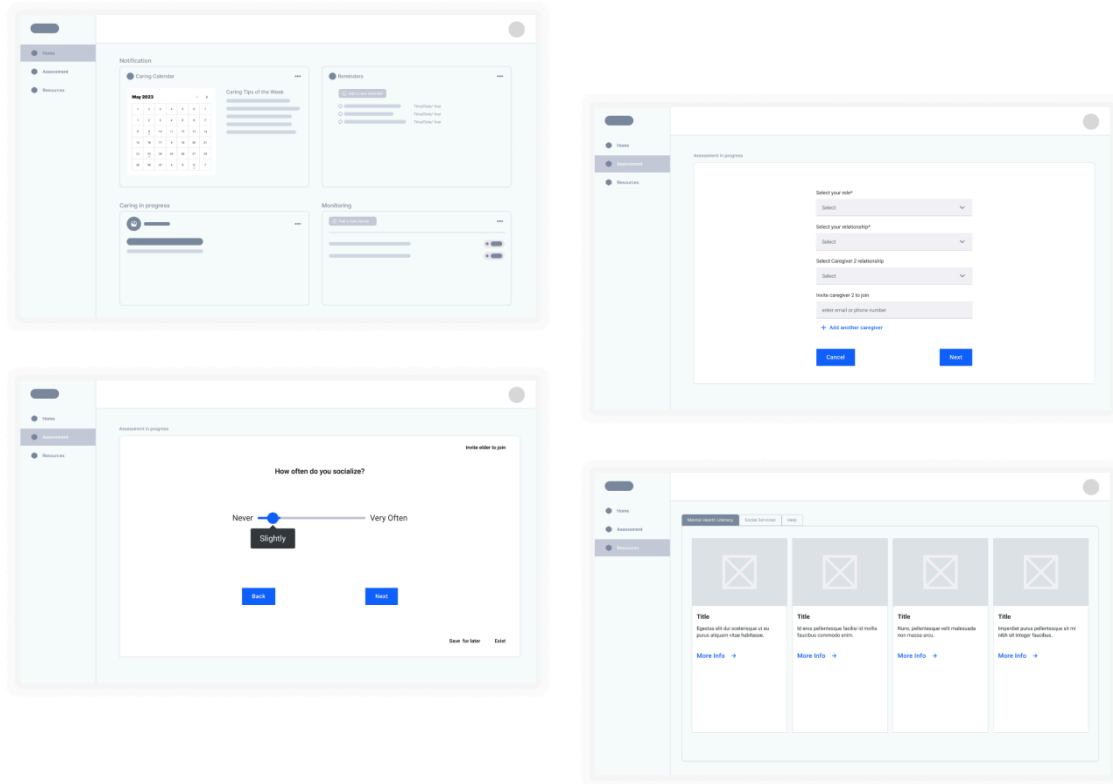


Figure 12: Wecare Wireframe examples (Source: Violet Zhang)

## Design Mockups

As a result, the Wecare prototype has evolved to present a complete user flow, vividly narrating the journey and functionality of the product after several iterations driven by self-refinement and testing. Each iteration has been instrumental in enhancing user experience, streamlining functionalities, and addressing identified shortcomings.



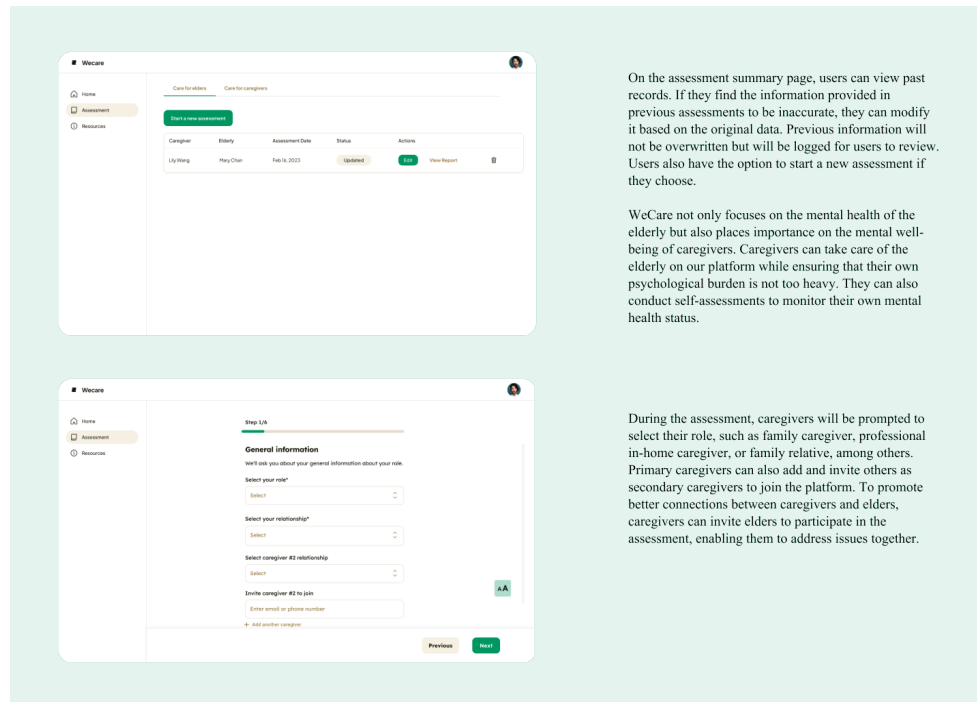


Figure 15: Some details about the Wecare mockup. The two mockups above show the assessment summary page and the assessment screening process. (Source: Violet Zhang)

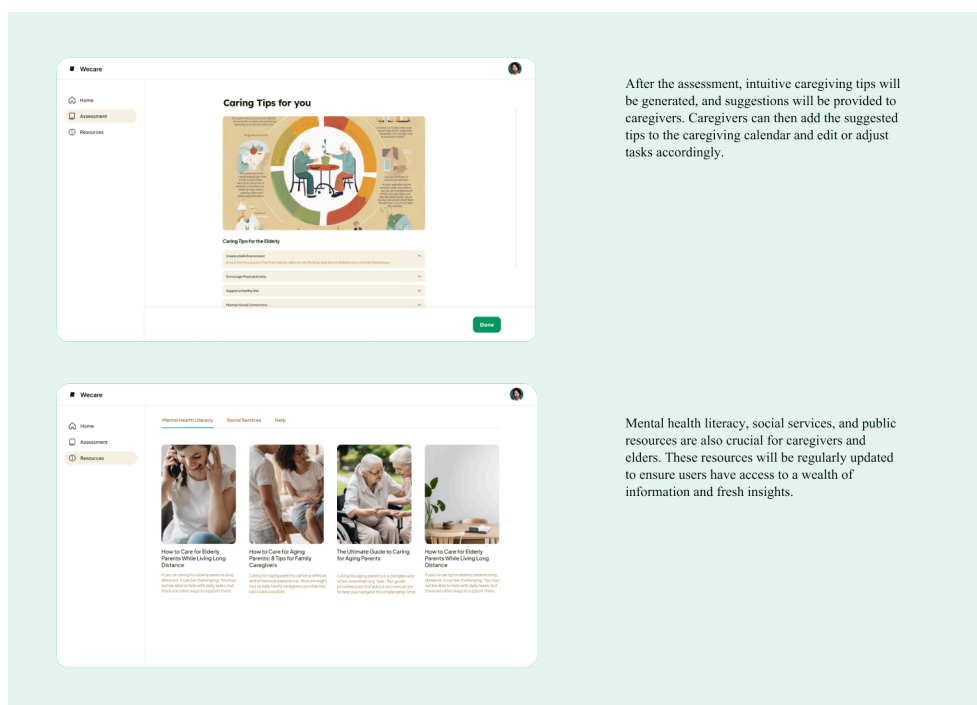


Figure 16: Some details about the Wecare mockup. The two mockups above show the caring tips and the mental health literacy blog screens. (Source: Violet Zhang)

## **Discussion**

The overarching goal of this research was to explore a design solution for caregivers that addresses the factors influencing the mental health of the elderly, particularly in remote caregiving, considering the unique challenges faced by only-child caregivers in Canada and the elderly in China. Examining this particular demographic as a case study aims to comprehend challenges and develop a reference framework for supporting families, potentially inspiring families in other cultures with the same only-child family pattern. While uncovering the factors, the analysis forms parameters that build the foundation of the final Wecare digital health tool design. These include physical changes, emotional changes, social engagement, and environmental shifts. Moreover, behavioural research shows that simple user flow and straightforward actions are more friendly for elderly users, and they prefer to use a smartphone or tablet for searching and reading. These research findings were summarized, and four parameters were used as starting points for design implications.

The final design solution, Wecare, is a digital health tool — a web application designed for caregivers and elderly users. Wecare serves not only as a connection and health monitoring platform but also offers assessment, enhances mental health literacy, and provides helpful resources that enable caregivers and the elderly to pay attention to their mental wellness throughout the remote caring process.

To intensify the current assessment tool into a more sophisticated, data-oriented one, the project aspires to integrate robust data as backend support in the future. This evolution aims to elevate the product into professional clinical diagnostic tools, empowering individuals and experts to make precise and effective initial assessments. The system can also be developed and expanded for policymakers, government, and social services.

## **Limitations and Reflection**

Notably, a crucial learning point has been the intricate interplay between physical changes, particularly post-surgery recovery, and mental health. For instance, research indicates that heart surgery, such as coronary artery bypass grafting (CABG), is linked to an increased risk of

depression approximates between 30% and 40% of all cases, while major depression commonly arises as a psychiatric complication following brain surgery after traumatic brain injury (TBI) (McKhann et al., 1997; Jorge et al., 2004; Tully & Baker, 2012). These insights have surfaced through data collection and field research. However, the vastness of the topic and the multitude of perspectives explored by various research fields such as physiology, medicine, neurology, and psychology make it challenging to cover all aspects comprehensively or focus on specific categories. While providing valuable insights, this study is just one facet of a larger conversation on the intricate relationship between physical and mental health in elderly individuals under remote care.

Although the primary focus of the research and Wecare digital health tool is to alleviate the burden for caregivers, understanding the perspectives of the elderly remains integral to the overall effectiveness of the project.

## **Conclusion**

After two years of research, the study reveals that the mental well-being of the elderly is a significant concern, especially in remote care. The research initially addresses issues from cultural backgrounds and policies, delving into specific demographic groups. Despite the limitations of the sample size, meaningful stories and discoveries were unearthed. Organizing and categorizing the research data, the researchers utilized skills in interactive design to create a digital health tool for elder care - Wecare. This product is dedicated to assisting caregivers in providing better remote care for the elderly, particularly emphasizing mental health.

The implications of the research and design practice are significant. Elder care should not only focus on physical decline but also everyday mental well-being. Given the stressful and competitive living environment, mental health initiatives should not be exclusive to the younger generation. There should also be an emphasis on raising awareness of elders' mental health and educating individual family caregivers, professional caregivers, and elders about mental health's importance. The healthcare system should improve services and regulations, provide aid, and encourage experts and social workers to use proper assessment tools to make consulting and pre-examining easier.

In addition, this research project could take many paths in the future. There is great potential in building the product into a care system. For instance, onboarding counsellors to the Wecare platform that elders and caregivers can use to book consultations through the web application. Counsellors can also follow up on the assessment report after connecting with patients. Moreover, long-term care home experts can utilize Wecare to assess elders' mental well-being simultaneously with the physical checkup. This not only aids nurses in providing inclusive care for the elderly but also helps identify and prevent potential mental illnesses before, during, and after each stage of care. Wecare will support experts in comprehensively onboarding elders to the care home. It will assist nurses in maintaining daily care routines by providing helpful tips and contributing to the well-being of family members after hospice care.

The existing research serves as the foundation for Wecare, giving it a preliminary form. Future studies and data-driven approaches hold immense potential to mature Wecare into a sophisticated tool, making it a practical resource in various professional fields. We are excited about the future opportunities through the Wecare project and its development.

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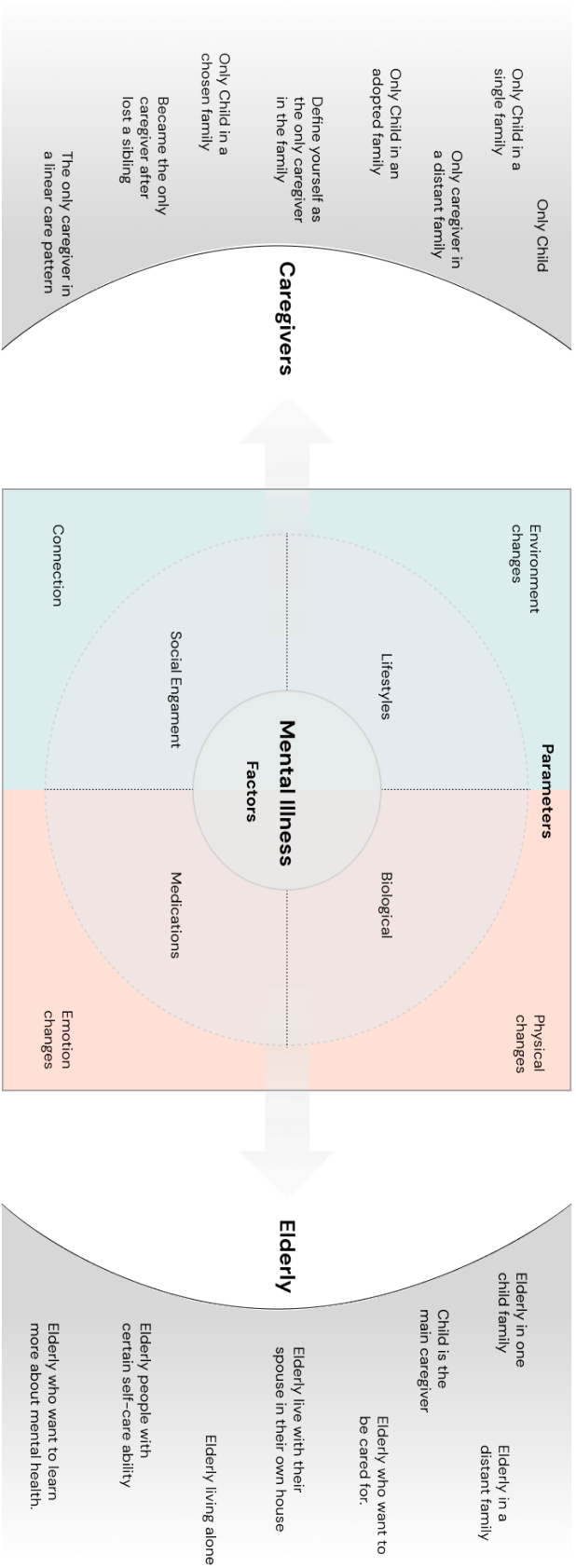
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## Appendix A - Diagrams



Figure 3: Images reveal a consistently locked daycare center, inaccessible steps to the elderly activity center, only display of physical health instructions in the community clinic, and a complicated online booking system unsuitable for the elderly. (Source: Violet Zhang, Jiaxing, Zhejiang, China, July 2023)

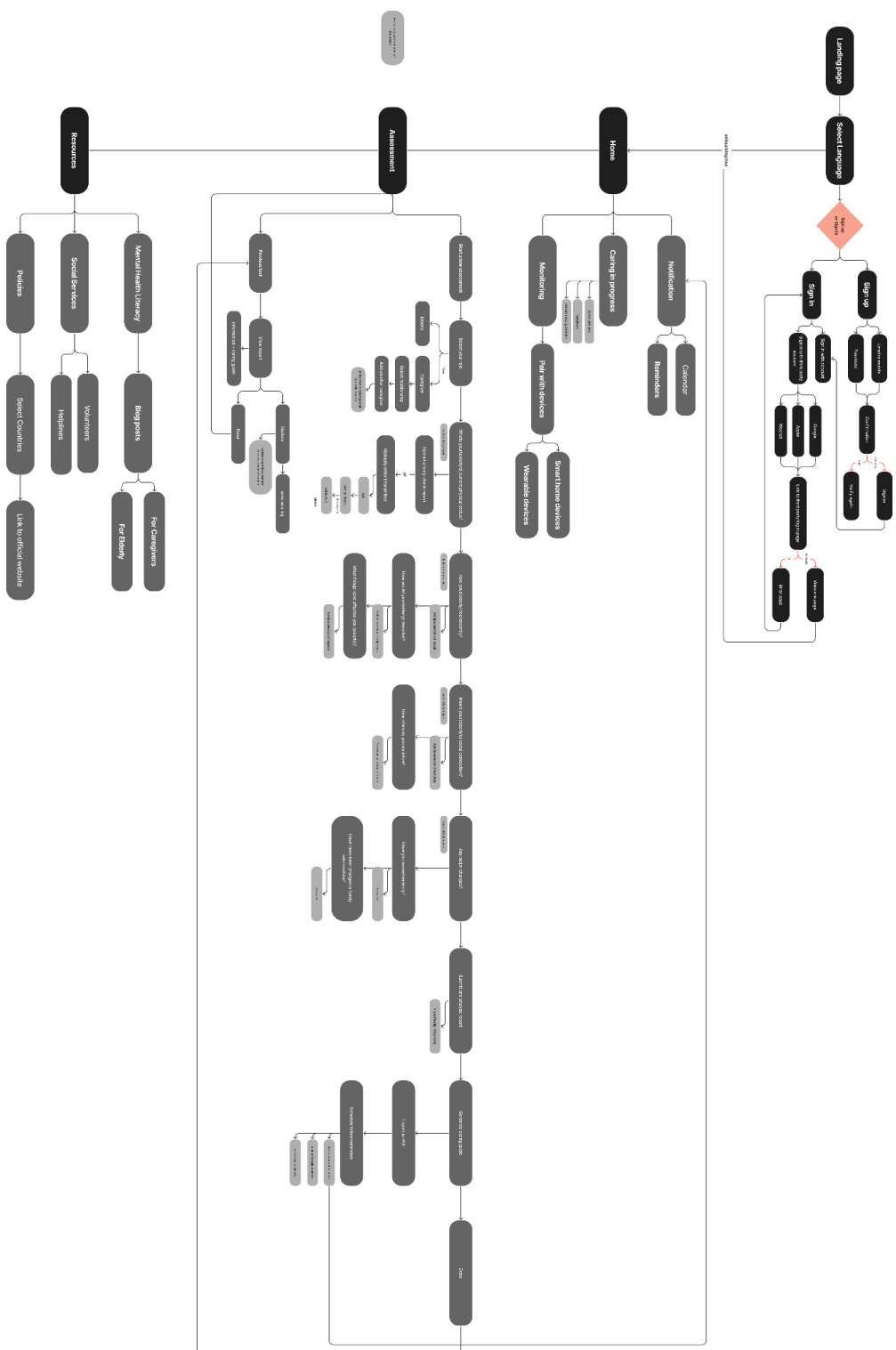


*Figure 7: The framework shows the four major factors that affect elderly mental health in daily life. This framework consists of four parts. The left and right edges show the range of caregivers and the elderly respectively, indicating the stakeholders in this framework. In the middle circle, there are four critical factors of mental illness. Surrounding the circle outside are four important parameters of elder mental health care derived from the four factors.(Source: Violet Zhang) (A full-size version is available in Appendix A)*



	Adult Children (only child)	Relatives (cousins, uncle, aunts etc.)	Professional Caregivers	Children's Friends	Elderly's Friends	Social Works & Volunteers
Roles						
Relevance						
Scenarios	Lives in a different city from his/her aging parents. She/he is the only child responsible for her parents' well-being.	Relatives are living in the same city. They are the secondary caregivers with in the family who can help to care the elderly who lives alone.	A professional caregiver providing daily care and support for elderly individuals. He/She monitors elderly physical and mental well-being and coordinates with the family.	A friend of the adult children. He/She occasionally visits and spends time with the elderly person.	A close friend of the elderly person, and they have known each other for decades. They support each other emotionally.	A social worker specializing in elderly care. He helps in coordinating services, is able to caring elderly in general, provides emotional support, and ensuring the overall well-being of the elderly person.
Needs	Regular updates on his/her parents' health and emotional state, access to remote monitoring tools, a reliable support system for her parents in his/her absence.	Clear communication channels with the primary caregiver, after visits or check-ins; also need information about local support services and emergency protocols.	Access to real-time health data and communication tools for regular updates with family members. Needs more training on managing mental health issues in the elderly, and a collaborative care plan.	Get information on the elderly's preferences, updates on any changes in behaviour or mood, and coordination with the primary caregiver or family.	Regular contact with family and friends, update their regular routine, emotional state, and support in maintaining social connections.	Access to comprehensive medical records, communication with family members, knowledge of local support services, and training on addressing mental health issues in the elderly.
Pain Points	Guilt about not being physically present, concerns about his/her parents' loneliness and mental health, challenges in coordinating remote care.	Limited knowledge about the day-to-day well-being of the elderly relative and challenges in coordinating care with the primary caregiver.	Limited knowledge of the mental well-being of the elderly, challenges in interpreting non-verbal cues, and potential communication gaps with family members.	Limited knowledge about the elderly person's medical history, needs and specific care requirements, challenges in understanding and addressing mental health issues in the elderly.	Friend can empathize and accompany but lacks knowledge about mental health.	Less direct connection with the elderly's family, hard to balance the needs of multiple elderly clients, coordinate with various stakeholders, and be unable to address complex mental health challenges remotely.

**Figure 8: The role spectrum elucidates the connections between various caregivers, highlighting those who can provide quick and efficient care for the elderly due to their close proximity in responsibilities and relationships. (Source: Violet Zhang)**



## Appendix B - Wecare Walkthrough

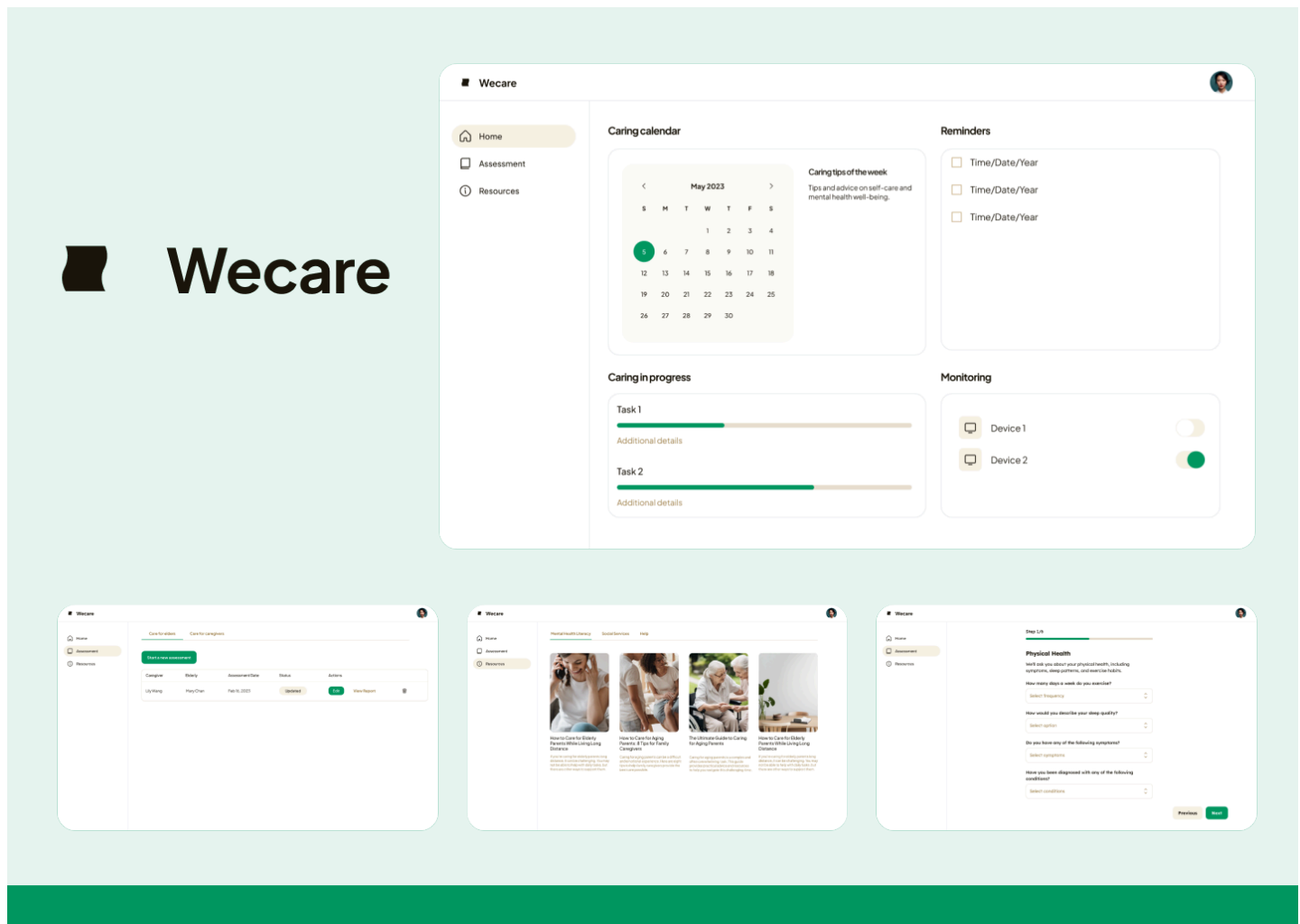
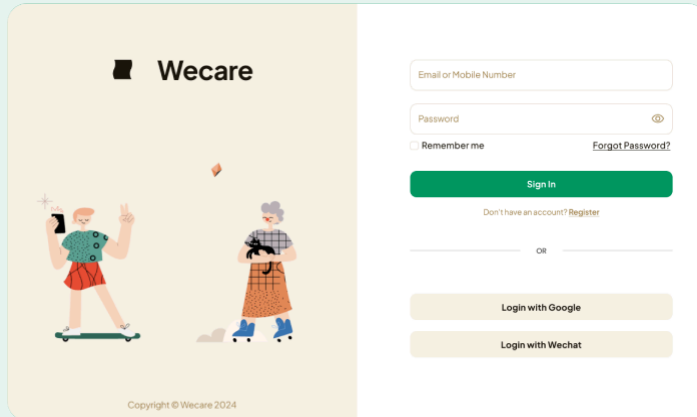


Figure 13: Wecare Mockup examples. In the upper right corner, the larger mockup is the home dashboard, where users can clearly see an overview of the Wecare features. Below are three smaller mockups (from left to right), which represent screens for Assessment and Resources and steps of taking an assessment in progress.

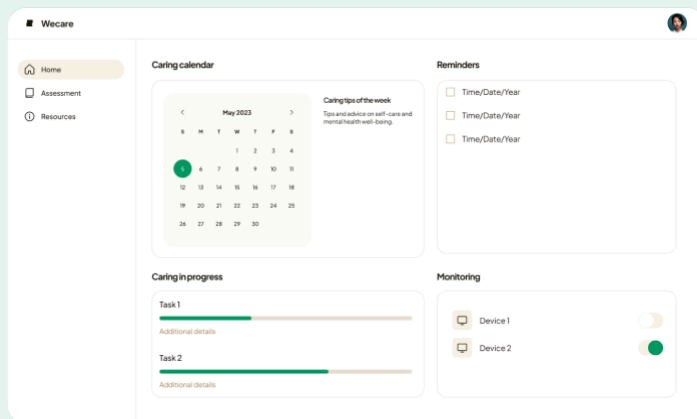
(Source: Violet Zhang)

First, simplify the login interface to make it easy for elders. Users also have the option to log in by using third-party services such as Google and WeChat. The dashboard has comprehensive functions such as caring reminders, monitoring capabilities, and showing current caring tasks.



Design the login interface to be as simplified as possible, making it easy to use and understand for elderly users.

Users can also log in to WeCare using third-party services like Google and WeChat.



The dashboard features comprehensive functions such as caring reminders, monitoring capabilities, and current caring tasks.

Figure 14: Some details about the WeCare mockup. The two mockups above show the login and dashboard screens. (Source: Violet Zhang)

First, users can view past records. If they find the information provided in previous assessments needs to be more accurate, they can modify it based on the original input. However, previous information will not be overwritten; it will be logged as versions for users to review. Users also have the option to start a new assessment if they choose.

Caregivers can also conduct self-assessments to monitor their own mental health status.



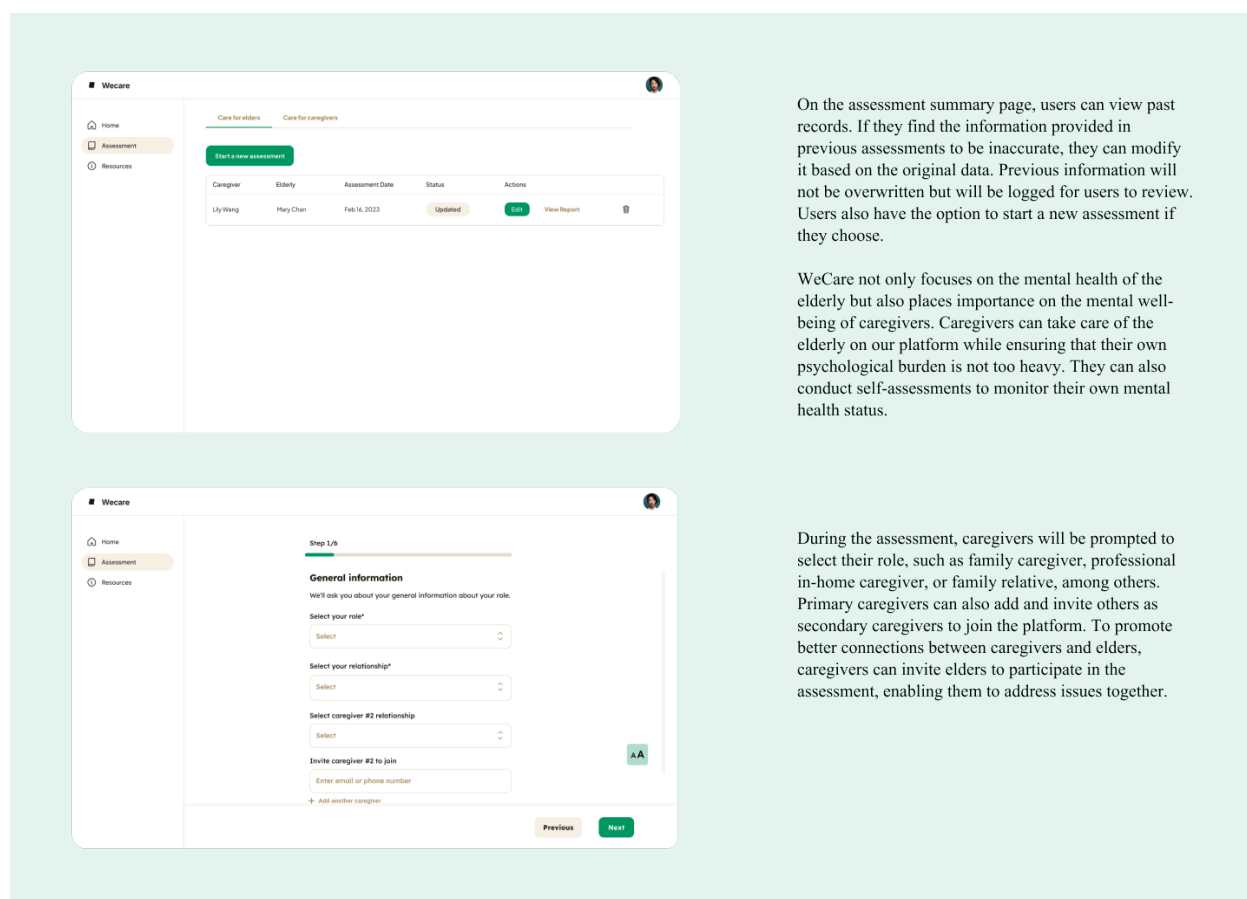


Figure 15: Some details about the Wecare mockup. The two mockups above show the assessment summary page and the assessment screening process. (Source: Violet Zhang)

Users can view past records. If they find the information provided in previous assessments needs to be more accurate, they can modify it based on the original input. However, previous information will not be overwritten; it will be logged as versions for users to review. Users also have the option to start a new assessment if they choose. Caregivers can also conduct self-assessments to monitor their own mental health status.

During the assessment, caregivers will be prompted to select their role, such as family caregiver, professional in-home caregiver, or other family relatives. Primary caregivers can also add and invite others as secondary caregivers to join the platform. To improve connections between caregivers and elders, caregivers can invite elders to join during the assessments, allowing them to address issues together.

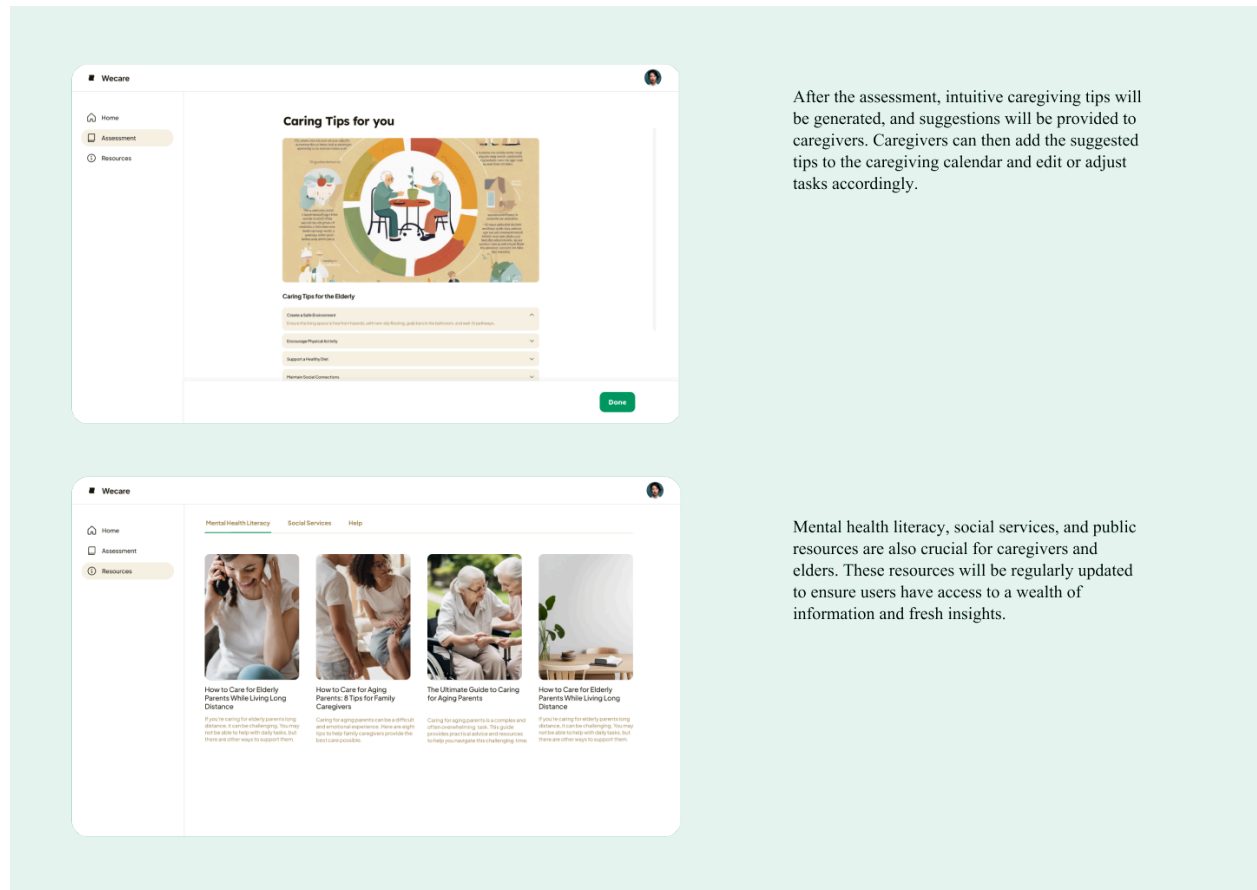


Figure 16: Some details about the Wecare mockup. The two mockups above show the caring tips and the mental health literacy blog screens. (Source: Violet Zhang)

After the assessment, intuitive caregiving tips will be generated, and caregivers will receive suggestions. They can then add the tips to the calendar and edit or adjust tasks accordingly.

Lastly, mental health literacy blogs, social services helplines, and public resources are important for caregivers and elders. These resources will be regularly updated to ensure users have access to a wealth of information and fresh insights.

# Appendix C - Research Ethics

## Emily Carr University Research Ethics Board (ECU-REB)

Research + Industry Office  
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Vancouver, BC V5T0H2

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### CERTIFICATE OF RESEARCH ETHICS APPROVAL

The Emily Carr University Research Ethics Board approves the following project:

File #	Title	Principle Investigator:	Other Investigators
100550	Care for Elderly Mental Well-Being at a Distance	Dr. G. Hertz	Violet Zhang (MDes Student)

The current approval dates are:

Approval Date	Expiration Date
July 5, 2023	February 28, 2024

The nature of the approval is as follows:

Type of Event	Type of Review	Approved Documents
New Approval Process	Delegated Review	Email invitation (for experts), consent form, recruitment script, ECU-REB application

It is the researchers' responsibility to meet all research ethics requirements in the jurisdictions in which the research takes place. The procedures and protocols described in this certification must be followed closely. Note the following conditions associated with this approval:

- For multi-site or partnered research, researchers are required to comply with all research ethics requirements that apply. Researchers are expected to share notice of this approval with partners, sites of research, or other research ethics review boards, as applicable.
- If changes to the approved application and documents are required by new partners, sites of research or other research ethics boards, researchers are required to inform the ECU-REB of these changes.

Researchers are required to report anticipated changes, adverse incidents, and project completion for further research ethics review. All reporting is managed through the research portal on the Research Management System Process Pathways Romeo - <https://ecuad.researchservicesoffice.com/>. Login and complete "event" reports for changes, adverse conditions, renewals, and the completion of this research ethics file.

This research ethics approval is in compliance with Tri-Council guidelines (TCSP2 2022) and Emily Carr University policies and procedures.

Nick Conbere  
Chair, Emily Carr University Research Ethics Board  
Emily Carr University of Art + Design

**Application for Human Research Ethics - REVISED 2017, 2022**

**Project Info.**

**File No:** 100550

**Project Title:** Care for elderly mental well-being at a distance

**Principal Investigator:** Dr. Garnet Hertz (Faculty of Design + Dynamic Media)

**Start Date:** 2023/05/01

**End Date:** 2024/02/28

**Keywords:** Interaction design

**Project Team Info.**

**Principal Investigator**

**Prefix:** Dr.

**Last Name:** Hertz

**First Name:** Garnet

**Affiliation:** Faculty of Design + Dynamic Media

**Position:** Associate Professor

**Email:** ghertz@ecuad.ca

**Phone1:** 1-604-789-6582

**Phone2:**

**Fax:** 1-604-630-7427

**Primary Address:** Emily Carr University of Art + Design 520 E 1st Avenue Vancouver, BC V5T 0H2

**Institution:** Emily Carr University of Art and Design

**Country:** Canada

**Comments:**

**Other Project Team Members**

Prefix	Last Name	First Name	Affiliation	Role In Project	Email
	Zhang	Violet	Faculty of Graduate Studies	Co-Investigator	vzhang52147@ecuad.ca

**Common Questions**

## 1. Project Ethics Details

#	Question	Answer
1.1	Anticipated date that work with participants will begin.	2023/05/01
1.2	Anticipated date that work with participants will end.	2024/02/28
1.3	Type of Project	Graduate Thesis Project or Dissertation
1.4	If you have chosen "Other" in the selection above, please describe here	
1.5	Does the research fall within the jurisdiction of another research ethics board or body? If so, all approvals need to be in place before participant research can begin.	No
1.6	If you answer 'Yes' to question 1.5, please list the names of all of the Research Ethics Board(s) to which you have applied for this project. Include the approval date(s). These dates must match the dates in the certification documents that you attach to this application. Please follow this format: UBC GREB   January 15, 2017 to January 15, 2018	
1.7	Are you a student (graduate or undergraduate) applying for ethics approval for a thesis project?	Yes
1.8	If you answer 'Yes' in 1.7, ensure that the Principal Investigator in this application is your thesis supervisor and add your name to the "Other Project Member" category at the bottom of the page. Please click the info button for important instructions.	
1.9	Have all of the named researchers completed the TCPS2:CORE (Course on Research Ethics)? If yes, upload each of the certificates using the attachments tab of this application. No application will be processed until all of these certificates are supplied. If you have comparable certification from another site, please upload the certification with an explanation.	Yes

1.10	If you have uploaded comparable certification from a source other than the TCPS2:CORE, please describe here. (Provide a link to the program or an institutional description, if available)	
1.11	For student researchers(if you answered 'yes' in 1.7) - describe any potential conflicts of interest for the researchers such as non-academic benefits, (eg. financial remuneration, patent ownership, employment, consultancies, board membership, share ownership, stock options, etc.) expected by the researchers, partner organizations, or collaborators as a result of the research. Also describe any non-disclosure agreements or any other restrictions anticipated to affect the research	
1.12	Attachments checklist - Ensure that the following documents are attached to this application using the Attachments tab. Incomplete application will not be reviewed.- TCPS2:CORE certificates (or equivalent) for each of the researchers.- All Recruitment materials (also see 'Research Participants and Recruitment' tab)- All consent and release materials (also see the 'Consent' tab)- Other relevant documents	

## 2. Risk & Review

#	Question	Answer
2.1	(Optional) Would you like to determine the level of risk and review required for this project?	
2.2	From the 'Risk and Review' assessment, the proposed research project is expected to require the following (choose one). Do not attach the 'Risk and Review' assessment	Level 2 - Low Risk

## 3. Summary of Proposed Research

#	Question	Answer
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3.1	Summary of Proposed Research: Describe the purpose of the proposed research project in non-technical language (200 words max, please see info button for details)	<p>This research aims to address the issue of mental health care for elderly individuals, highlighting that mental health issues are not exclusive to younger generations. The study specifically addresses the challenges adult children living overseas face, the issue of noticing their mood changes and seeking to provide remote care for their aging parent's mental health. My research plan involves using participatory and interview methods to explore the reasons behind psychological changes in elderly individuals. Moreover, by interviewing professionals, I will gain further insights into the psychological issues and challenges currently faced by the elderly. These methods can provide deep insights into psychological changes in the elderly and help to reveal social and cultural factors associated with them. This type of research can also provide valuable insights and guidelines for mental healthcare better to support the health and well-being of elderly individuals. The main research question is: How can adult children living in Canada provide better remote care to enhance aging parents' mental well-being residing in China?</p>
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3.2	<p>Methodology (200 words max):Describe this project's methodological approach to participant research activities. Include details on what will be expected of participants. Attach survey, interview questions and other documents related to the research methods. Include a timetable for participant research activities.</p>	<p>The goal is to have a better understanding of the elderly's actual needs through research and to learn the what are current mental issues that the elderly are struggling with from the professionals' perspectives. At the same time, I plan to explore the significant issues and difficulties that adult children face during remote care through interviews. The possible methodologies are interviewing adult caregivers in Canada, interviewing counsellors and professors who focus on elderly care, applying autoethnography and journaling stories and experiences.</p> <p>Interview MethodsPossible interview questions for adult children participants will be:</p> <ol style="list-style-type: none"> <li>1. Can you briefly describe your current situation as an adult child living abroad and providing remote care for your elderly parent(s)?</li> <li>2. What specific challenges do you face in providing remote care for your parent(s)? How do these challenges affect your daily life and overall well-being?</li> <li>3. How do you stay connected with your parent(s) despite the distance? What methods or technologies do you use to maintain regular communication?</li> <li>4. How do you handle emergencies or sudden health issues with your parent(s) when you are physically far away? Do you have any contingency plans in place?</li> <li>5. Have you encountered any emotional or psychological challenges in providing remote care for your parent(s)? How do you cope with the emotional stress and guilt of being physically distant?</li> <li>6. In your opinion, what kind of support or resources would be helpful for adult children living abroad who are providing remote care for their parent(s)?</li> <li>7. Have you sought any professional assistance or consulted experts in caregiving, mental health, or geriatrics to help you navigate</li> </ol>
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		<p>the challenges of remote care? If so, what kind of support have you received?</p> <p>Possible interview questions for counsellors will be:</p> <ol style="list-style-type: none"> <li>1. Can you tell us about your experience providing counselling services for elderly individuals?</li> <li>2. What are the unique challenges and considerations when working with the elderly population in a counselling setting?</li> <li>3. How do you approach building trust and rapport with elderly clients who may hesitate or resist counselling?</li> <li>4. Can you share an example of a successful outcome you achieved while working with an elderly client? How did you approach their unique needs and circumstances?</li> <li>5. How do you address cultural or generational differences when counselling elderly individuals from diverse backgrounds?</li> <li>6. How do you believe the relationship or connection between elderly care and living distance impacts the mental well-being of elderly individuals?</li> </ol> <p>Possible interview questions for Professor Peng will be:</p> <ol style="list-style-type: none"> <li>1. What motivated you to explore the topic of psychology and life in the age of longevity, explicitly focusing on the elderly population?</li> <li>2. Can you share insights or findings from your book regarding the unique challenges elderly individuals face in maintaining their mental health and overall quality of life?</li> <li>3. Are there any particular aspects of aging that your book highlights which are often overlooked or misunderstood by society or traditional psychological perspectives?</li> <li>4. Can you discuss any specific cultural or societal factors explored in your book that influence the psychological experiences of elderly individuals in different parts of the world?</li> </ol> <p>(still reading the book and will be asking questions related to the content and any statement she made in the book.)</p> <p>Autoethnography I will chat with my</p>
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		grandparents, family members and friends to learn more about how they understand and think about this topic. Journaling I will note any publications, posters and promotions in either the community or the hospital without filming or recording any individuals.
3.3	Professional Expertise / Qualifications: If any of the research activities require professional expertise or recognized qualifications (eg. first aid certification, registration as a clinical psychologist or counsellor, health practitioner qualifications or expertise, etc), describe them here.	I plan to interview one counsellor and one professor. The counsellor is YING Ma, a licenced professional counsellor with over ten years of counselling experience, mainly with clients struggling with intimate relationships, family relationships, parent-child relationships, and workplace relationships. Professor Peng Huamao from the Beijing Normal University faculty of psychology, I am reading her book "Hello, my later life - Psychology and Life in the Age of Longevity. I will reach out to her via email.

#### 4. Research Participants and Recruitment

#	Question	Answer
4.1	Participants: Indicate the groups that will be targeted for recruitment in the research project. Describe any specific inclusion or exclusion criteria (example: undergraduate students, specific age ranges, genders, etc)	My research consists of two primary groups: 1. Professional experts 2. Adult children as a caregiver
4.2	Number of Participants: What is the expected number of participants?	I plan to conduct interviews with seven participants: five adult children, one counsellor, and one professor, perhaps more along with the research process.

4.3	<p>Recruitment: Describe how participants will be recruited, and by whom. Attach any materials that might be used for recruitment (eg. email text, posters, fliers, advertisements, letters, telephone scripts).</p>	<p>1. Professional expertsI have had a personal connection with counsellor Ying Ma for a long time, and she agreed to the idea of interviewing her for my thesis.I want to interview Professor Peng because she is one of the experts researching elderly psychology in China. I have watched one of the Ted talks on Youtube, and am also reading her books. I will connect with her via email. I may interview more experts along with the research process.2. Adult Children as a caregiverI will interview my friends and people in the immigration service community in Coquitlam. Many of them have similar experiences of living separately with their parents and grandparents at a distance and facing the issue of distance care.Participants will be voluntarily interviewed with their consent to the agreement.The following claim will be presented before participants sign the consent form:This research explores the complex interaction between people residing in China and their adult children living abroad. It is crucial to acknowledge that participants may exhibit vulnerability due to their potential reliance on familial support or assistance from services. However, it is essential to clarify that the primary objective of this research is not to provide immediate solutions or interventions. Instead, the purpose is to engage in a comprehensive investigation, study, and exploration of the issue. Through this research, we strive to enhance our understanding to identify potential areas for improvement and innovation that could inform the development of interventions for a wider audience.I can assist in connecting with community workers if participants need professional help, such as providing helplines.Helpline in China:Free</p>
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		counselling helpline for Zhejiang Province 0571-85029595 (24 hours) Helpline in Canada: Wellness Together Canada call 1-866-585-0445 or text WELLNESS to 741741 for adults You can also visit Wellness Together Canada ( <a href="https://www.wellnesstogether.ca/en-CA?lang=en-ca">https://www.wellnesstogether.ca/en-CA?lang=en-ca</a> ) To access different levels of support, including: 1. one-on-one counselling 2. credible articles and information 3. self-guided courses and programs 4. peer support and coaching
4.4	Incentives: Will participants be offered incentives to encourage their participation?	No
4.5	If yes to above, describe the incentive plans and the rationale for using incentives.	
4.6	Participants and vulnerability: Are there circumstances that cause the participants or participant group(s) to be vulnerable in the context of research?	No
4.7	If yes to above, describe the particular way participant vulnerability may be affected by the research and any measures that are planned to address potential risks associated with these vulnerabilities.	
4.8	Are people from First Nations, Inuit, Metis or other Indigenous backgrounds being specifically invited to participate in this research?	No
4.9	If yes to above, describe any additional reviews/approvals/consultations/cultural protocols required to complete this research. Ensure your rationale for engaging with specific individuals or communities is described in 3.1.	
4.10	Research Locations : Select all locations where participant research will occur.	Other (describe)
4.11	Provide details of the locations listed above	1. Jiaxing, Zhejiang, China 2. Coquitlam & Vancouver, BC, Canada 3. through Zoom

4.12	<p><b>Participant Access to Research Results:</b> Describe your plans to provide or share results of your research with participants. This might include invitations to final presentations or exhibitions, or copies of publications produced. Content here should be consistent with descriptions in the consent forms provided.</p>	<p>The research data will be collected and transcribed into the form of a research summary and infographics and made available to participants upon request. All the participants will also be invited to the final thesis presentation. These invitations will be communicated to participants verbally and in writing on all consent forms.</p>
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## 5. Risk vs Benefit

#	Question	Answer
5.1	Describe any known or anticipated direct or indirect benefits to the research community or society that may emerge from the proposed research.	<p>This project aims to improve the quality of care and support for elderly individuals, with a particular focus on their mental health and emotional well-being. This project aims to identify the challenges faced by elderly individuals and their families in accessing care and support and look for insights from the findings of the research. Finally, I wish to use this research as a case study and identify potential areas for improvement and innovation that could inform the development of interventions for a wider audience.</p>
5.2	Risks of Research: Check any that apply - list all risks likely to be faced by participants in the proposed research.	<p>Psychological or emotional risks Personal/Sensitive information: the proposed research involves the disclosure of information that is intimate or sensitive in nature (describe in detail)</p>
5.3	Describe the risks identified and contextualize them related to risks faced by participants in every day activities. See info button for details.	<p>During the research process, emotional and affective topics may be discussed. Furthermore, personal health conditions will also be an important factor.</p>
5.4	Risk Mitigation: Describe how the researchers will mitigate the risks identified above. Describe whether the researchers have the skills to deal with identified risks or whether additional experts will be recruited. Describe any resources that will be made available to participants.	<p>In terms of confidential information, participants have full authority to refuse to disclose any information. Anonymity will be maintained during the entire interview. If participants exhibit discomfort or no longer want to participate in the research, the activity will be ended immediately. This will be identified in verbal and written forms during the activity with participants.</p>

## 6. Consent

#	Question	Answer
6.1	Consent Documents: Check all of the following consent and release documents that will be used in this project.	Consent Form
6.2	Describe any special consent provisions selected above	Because of the cultural inclination and informal nature of the interaction between an interviewer and an interviewee, the potential participants will be contacted by word-of-mouth methods. Only those who have given their verbal consent to participate will be included in the final list of participants, and they will be asked to sign an agreement. A consent form will be issued before the interview. Please find attached the consent form.

## 7. Confidentiality and Security

#	Question	Answer
7.1	Confidentiality: Indicate the level of confidentiality built into the research design.	Indirectly Identifiable - the research materials (data) can reasonably be expected to identify specific participants through a combination of indirect identifiers like place of residence or date of birth (describe)
7.2	Describe the rationale for the collection of identifiable research materials	The interview will be completely anonymous, and the research material may involve information such as age and location.

7.3	Storage & Destruction of Confidential Material: Describe in detail how identifiable materials/data will be collected, stored, retained and destroyed at the end of the data lifecycle.	I will collect anonymous data through screen recordings or voice recordings. I will conduct either face-to-face or online interviews. I will do voice recording for people taking interviews in person, and if the interview takes place online through WeChat or Zoom, I will utilize screen recording. Due to policy restrictions, it is important to note that for online interviews with any participants residing in China, WeChat will be used as the preferred communication platform. Zoom is currently banned in China, and accessing it through a VPN is illegal and against the law. Anonymous data will be gathered, securely stored in digital format on locally stored, password-protected hard drives, and deleted upon completion of the project.
7.4	Location of Data: Describe the location for long-term storage of confidential materials	In the event that the university requires it, the research data will be submitted to the supervising faculty member at Emily Carr University for safe storage upon completion of the project. If the university does not require it, these digital materials can be deleted at the end of the project.

## 8. Monitoring

#	Question	Answer
8.1	Once REB approval has been obtained, it is the responsibility of the PI to maintain the ethics file in up-to-date good standing and make appropriate reports (such as Severe Adverse Event reporting) and amendments (please see Info button for more details). Is it expected that the proposed research will require additional monitoring beyond the minimum annual requirement?	No
8.2	If you answered yes to the above, please describe your plans for this.	
8.3	Is it expected that the proposed research will continue beyond the conclusion of this project?	No

8.4	If yes to above, describe in detail.	
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#### Attachments

Doc / Agreement	Version Date	File Name	Description
Consent Materials	2023/06/19	Emily Carr University Research Informed Consent Form_in June.pdf	N/A
ECU-REB Approval Certificate	2023/07/05	20230705_Zhang_Hertz_Approval_Certificate.pdf	N/A
Other Document	2023/06/19	Email Invitation Draft to experts.pdf	Email invitation template to experts
Other Document		The explanation about using WeChat as an online interview tool.pdf	The explanation about using WeChat as an online interview tool for my research
Other Document	2023/06/19	REB Autoethnography and Research Ethics Guide and QuestionnaireJune 2020-3.pdf	OCADU REB Auto-ethnography guidelines for use as a resource.
Recruitment Scripts		Recruitment Script.pdf	Recruitment Script
TCPS2:CORE certificate (or equivalent)		Garnet Hertz's_tcps2_core_certificate.pdf	Principle investigator's TCPS certificate
TCPS2:CORE certificate (or equivalent)		tcps2_core_certificate.pdf	Violet Zhang's TCPS2 certificate