2022

Not in it alone: a program to decrease loneliness in community-dwelling older adults

BOSTON UNIVERSITY

SARGENT COLLEGE OF HEALTH AND REHABILITATION SCIENCES

Doctoral Project

NOT IN IT ALONE:

A PROGRAM TO DECREASE LONELINESS IN COMMUNITY-DWELLING OLDER ADULTS

by

LIZABETH METZGER

B.S., Boston University, 2009
M.S., Boston University, 2011

Submitted in partial fulfillment of the

requirements for the degree of

Doctor of Occupational Therapy

2022

Approved by

Academic Mentor _____

Lauren Telesmanic, OTD, OTR/L
Teaching Professional of Occupational Therapy

Academic Advisor _____

Karen Jacobs, Ed.D., OT, OTR, CPE, FAOTA
Associate Dean for Digital Learning & Innovation
Clinical Professor of Occupational Therapy

DEDICATION

I would like to dedicate this work to my husband, Avi, and my mother Judy who have been my biggest fans, as well as my spawn, Adele and Natalie.

ACKNOWLEDGMENTS

I'd like to thank all of the folks at the Village Chicago. The Village has been my village and inspired me to pursuit this subject matter. It truly takes a village.

NOT IN IT ALONE:

A PROGRAM TO DECREASE LONELINESS

IN COMMUNITY-DWELLING OLDER ADULT

LIZABETH METZGER

Boston University, Sargent College of Health and Rehabilitation Sciences, 2022

Major Professor: Lauren Telesmanic, OTD, OTR/L, Teaching Professional of Occupational Therapy

ABSTRACT

Loneliness is a pressing issue effecting affecting many older adults that has far reaching implications for health and wellness (Collins et al., 2020). A literature review by this author was conducted to determine if there are interventions that are effective for decreasing loneliness in retired older adults. This literature review provided mixed results. Some studies showed improvements in quality of life but not change in loneliness. Others showed efficacy at addressing social isolation but not in degree of loneliness. The most effective interventions used cognitive behavior therapy, involved groups, had an established theoretical foundation and included multiple components (Smallfield & Molitor, 2018; Gardiner et al., 2018). This paper will address the underlying factors that contribute to loneliness and the current research on effective interventions to address loneliness. It will go on to offer a new evidence-and-theory-based intervention to address loneliness for retired older adults within the community setting.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

BU ..... Boston University

ETL ..... Evolutionary Theory of Loneliness

IADL ……,,,……Instrumental Activities of Daily Living

LSNS ……. Lubben Social Network Scale

PHQ-9 ..... Patient Health Questionnaire-9

RULS-6 ..... Revised University of California Loneliness Scale-6

SCT.……...…….Social Cognitive Theory

CHAPTER ONE – Introduction

The evidenced literature suggests there is a lack of research on the effectiveness of occupational therapy group intervention to address social isolation in community-dwelling older adults (Smallfield & Molitor, 2018). Although there is research on interventions that address leisure activities to enhance participation, a direct link to the concept of social isolation is deficient. The literature has identified a need for more theory-informed design to better establish the benefit of the interventions that address social isolation (O'Rourke, et al, 2018). Loneliness and social isolation increase an individual's risk for reduced health (Smith & Victor, 2019), well-being (Collins et al., 2020), falls (Hajek & Konig, 2017), cognitive decline (Tilvis et al., 2004), impaired activities of daily living (Hoogendijk, 2020; Shamlou et al, 2021) and mortality (Holt-Lunstad, 2015).

The Scope of the Problem

It has been established in the healthcare evidenced-based literature that social isolation is associated with worse health outcomes (Courtin & Knapp, 2017; Leigh-Hunt et al., 2017). As occupational therapy practitioners continue to move into community settings, it is important to identify occupational therapy's distinct value to stakeholders and recipients of services. Robust evidence is needed to support the benefits of occupational therapy services, which will allow for more practitioners to enter these less established areas of practice. Successful integration of occupational therapists into more community settings will increase access to occupational therapy services, which may improve outcomes related to social participation, loneliness, and overall health and well-

being (Collins et al., 2020).

As healthcare costs continue to rise and as Americans continue to experience more health co-morbidities, it is evident that there is a greater need for occupational therapy intervention to promote health and wellness prior to health episodes and declines in meaningful occupations. This has the potential to decrease healthcare costs and costly medical interventions (Rula, 2011). In the bigger picture, occupational therapy can be used more consistently as a tool for primary prevention and health promotion (AOTA, 2021a).

Social participation has long been considered within the scope of occupational therapy, predating the Occupational Therapy Practice Framework. Based on one AOTA Critically Appraised Topic completed by Smallfield and Molitor (2019), there is currently mixed evidence to support the use of group interventions for addressing social participation in the community settings; therefore, there is a need for more research in this area. In the most recent, Fourth Edition, of the *Occupational Therapy Practice Framework*, health management has been added as a category of occupation to emphasize how significant health management is as an area of intervention within occupational therapy practice (AOTA, 2020b). It has been established in the occupational therapy literature that health, engagement in meaningful occupations, and well-being are strongly connected (Pizzi & Richards, 2017). Given the interconnection of occupations and the importance of occupational balance, it is important to consider the impact of social participation on other areas of occupation, such as health management and leisure activities. In light of the recent pandemic, with reports of increases in suicide, substance

abuse, and domestic violence, it is evident that social isolation and loneliness paired with occupational deprivation, have significant negative impacts across the life span.

Explanation of the Cause of the Problem

Retirement represents a major shift in individuals' roles and the way they manage their time. In Appendix A, a causal pathway explains the connection between retirement, loneliness and worse health outcomes, and decreased engagement in meaningful activities. Following retirement, it has been shown that individuals experience a loss in social engagement (Shin et al., 2019). When there is the loss of social network, individuals may experience a decline in their mental health (Beller & Wagner, 2020) as well as a decrease in social participation (Turcotte et al., 2019). This decline in mental health and social participation will then impact individuals' experiences of loneliness (Kraav et al., 2021; Lee et al., 2019). Loneliness then impacts the individual's health outcomes (Cacioppo & Cacioppo, 2018; Collin et a., 2020) and meaningful engagement in occupations (Shankar et al., 2017).

There are many moderators that will influence the likelihood and severity of loneliness and its impacts on health and wellness outcomes. These include: if retirement was voluntary; the size of the social network (Shin et al., 2019); the way individuals perceive their current social engagement and self-efficacy (Holahan & Holahan, 1987); the availability of community resources (Turcotte et al., 2019); and if individuals are living alone (Lee et al., 2019). Some of these moderators are flexible, which in turn, presents opportunities for intervention.

Contributing Factors

Beyond the immediate causal pathway, there are larger societal factors that influence individuals' risk and experience for social isolation and loneliness. Social isolation in aging adults has been a long-standing problem, especially within western cultures where intergenerational homes are less common. In Mark Freeman's book, *How to Live Forever: The Enduring Power of Connecting the Generations* he discusses the rise of age-based, socially segregated communities and its impact on perceptions of aging and general outcomes for older adults. Therefore, the context and geography are important considerations (American Perceptions of Aging in the 21st Century, 2002; Portacolone et al., 2018; Taylor et al., 2009).

The context of cultural attitudes surrounding aging has had a large impact on assumptions about where older adults live and how they should spend their time. Löckenhoff et al. (2009) found that in western countries and places where there were proportionately more older adults in the population, people were more likely to perceive older adults as being less attractive, having less ability to perform everyday tasks and performing worse at new learning. These attitudes can impact individuals' self-perception, which may impact decisions on how they perceive themselves and how they spend their time and perceive their abilities. For example, perception of activity demands can be both intrinsic, such as identifying a desire to maintain independence, and external, the belief that they should require assistance for more Instrumental Activities of Daily Living (IADL). Of non-institutionalized older adults over the age of 75, 10.6% require assistance with ADLs and 18.8% require assistance with IADLs (National Health

Interview Survey, 2014). Freeman et al. (2016) also found negative perceptions of aging predicted new onset of depression and anxiety in older adults.

These societal attitudes impact types of services, supports and policies that are created with the ultimate goal of improving the lives of older adults. Unfortunately, these policies do not always promote the desired outcomes. For example, creating subsidized senior housing has allowed for low-income seniors to avoid nursing homes; however, it still removes them from their previously established communities and social networks which can further promote isolation and loneliness. For example, Taylor, Wang and Morrow-Howell (2018) found that 69.3% of older adults residing in St Louis' senior public housing experienced moderate or severe loneliness. This is higher than the over-all older adult population, which is closer to 34% (Chawla et al., 2021).

The US healthcare system has largely been designed to be reactive to healthcare needs. For example, the US leads the world in innovations in emergency medicine and cancer treatment (Kurani et al., 2020). However, the healthcare system has spent fewer resources and less energy on proactive care that emphasizes preventing emergency episodes and co-morbidities that result in the need for medical care (Levine et al., 2019). As a result, when someone is experiencing a condition that has no immediate negative health consequences, there are no interventions in place to prevent secondary problems. Insurance companies and private corporations sometimes provide reimbursement for spending on items such as gym memberships or discounts for taking biometric screens with the assumption that improving lifestyle will improve health outcomes. Unfortunately, that same effort has not been applied to social participation and loneliness

as possible facilitators in improved health outcomes.

Core Elements of Intervention

The core elements of the intervention will include an multi-week intervention program, a toolkit for carrying out the program, and an 8-week group program to be carried out by a therapist in-person (depending on safety/health concerns) with the goal of developing skills in social participation, problem-solving environmental barriers to engagement and building self-efficacy. The intervention will be unique to occupational therapies scope of practice as it will address meaningful occupational engagement.

To increase ability to generalize the program and to promote its use beyond one setting, a toolkit will be created for other occupational therapists to use in community settings to address social isolation. The toolkit will include assessments for data collection, guidance on intervention, and marketing materials. An additional benefit of this toolkit is that it may establish a role with ideas for possible funding sources for occupational therapists within The Village model or other community settings that serve older adults.

CHAPTER TWO – Project Theoretical and Evidence Base

Literature Review

There is a growing body of research investigating the connection between loneliness, social isolation and other factors including employment, gender, socioeconomic status and health (Smith & Victor, 2019). Despite the increase in research focused on this topic, these relationships are still not well-understood. Occupational therapy has the potential to use interventions to address loneliness to positively impact mental health, physical health and general functioning (Collins, 2020). Understanding the underlying causes of loneliness and risk factors is imperative when working to develop effective interventions. The following four research questions were used to investigate the connections between social isolation, loneliness, health, retirement, and function: Is there evidence that social isolation and loneliness result in negative health outcomes for older adults? Is there evidence of a connection between isolation and loneliness? Is there evidence that retirement increases the risk of developing loneliness? Is there evidence that loneliness impact's function and the performance of activities of daily living?

Exploratory Model

Life transitions lend themselves to possible challenges for individuals. Retirement is a major transition that can have large implications for the later years of an individual's life. A visual representation of the exploratory model can be found in Appendix A. As discussed in Saito et al. (2012), retirement often results in the loss of major social networks. This loss can be moderated by the nature of the end of employment and the presence of social support. Those who retire voluntarily typically have more developed

social networks and more financial security which result in their retired years being filled with more social engagement (Gallo et al., 2000). When individuals have a loss of social networks, it can result in their becoming depressed and reporting less social interaction. “Loneliness is generally understood as the discrepancy between the social engagement individuals would like to have and what they really have” (Shin et al., 2016, p. 1293). Therefore, when individuals experience depression, coupled with decreased social participation, they are more likely to experience loneliness (Kraav et al., 2021; Cacciopo & Cacciopo, 2018). There has been a great deal of research implicating loneliness in a variety of negative outcomes including decreased engagement in meaningful occupations (Collins et al., 2020; Shankar et al., 2017) and a variety of poor health outcomes including depression, anxiety, functional limitations, and self-rated health (Lee et al., 2019; Yuo et al., 2012).

Additional possible moderators that are important to consider include the availability of community resources (Turcotte et al., 2019), which can mitigate the effects of loss of social engagement. Social conditions within the environment may impact individuals’ mental health when they perceive a loss of social engagement. Another important moderator is self-efficacy. Self-efficacy can mitigate how individuals respond to the loss of a social network and if they experience a decline in mental health as a result (Holahan & Holahan, 1987). Additionally, if someone lives alone, a social network may decrease feelings of loneliness (Lee et al., 2019). These moderators range from a micro level, where individual variation will play a role in outcomes, to macro level, where community resources can affect a large swath of individuals.

The loss of social networks with retirement can have a large impact on individuals' emotional and physical health. A variety of factors that exist both internal and external to the person will impact the severity of these health-related outcomes.

Theoretical Frameworks

The social cognitive theory (SCT) provides the theoretical framework for understanding the problem of decreased social engagement following retirement and its impact on a variety of health outcomes. The SCT addresses the problem of development of loneliness while the Evolutionary Theory of Loneliness (ETL) addresses how loneliness connects to worse health outcomes.

A key assumption within the Social Cognitive Theory (CST) is triadic reciprocal determinism. This concept explains the bidirectional interaction between the person (his or her cognitive state), the environment, and his or her behavior. The environment is understood to be stimuli external to the person; this includes people, physical space and societal norms and expectations. Behavior is understood to be observable actions undertaken by the individual. These three components influence one another (Bandura, 1986). A change in behavior will reflect learning. By recognizing the impact of the change of environment, or loss of work environment, behavioral changes can be identified. The SCT recognizes that the behavior is going to have an impact on the person, and vice versa. The connection between social isolation and loneliness is not completely understood. Social isolation is an observable behavior while loneliness exists internally and is more subjective.

The ETL provides a more focused and explanatory model of the process and

causes behind loneliness. The ETL, like the social cognitive theory, also includes components of reciprocal determinism and explains the connection between the personal experience of loneliness and negative health outcomes by using a variety of postulates. In this theory, the feeling of loneliness (which exists internally) impacts the environment. The environment, or more specifically the people in the environment, perceive the person experiencing loneliness as more selfish and less social. This perception further isolates the individual and increases the likelihood of further perpetuating loneliness. The cumulative deleterious effect postulate recognizes the short-term impact of loneliness, which might be compensatory in nature but can have long-term negative effects on health and well-being. Additionally, the lifespan postulate assumes that the psychological and biological impact of loneliness is even more apparent in aging populations (Cacioppo & Cacioppo 2018).

Literature Review-Questions on the Problem

Is there evidence that social isolation and loneliness are connected? While the evidence supports that loneliness and social isolation both have impacts on the health and well-being of older adults, they are distinct ideas. There is very little research that adequately addresses the differences between the two concepts (Taylor, 2020; Holt-Lunstad et al., 2015; Beller & Wagner, 2018). In fact, Taylor (2020) found that social isolation accounted for only 9% of loneliness. Unfortunately, some studies on the topic are cross-sectional which makes it difficult to establish causation (Bai et al., 2021; Taylor, 2020). Additionally, almost all the studies are based on data from surveys, so that while the sample populations are more likely to be representative of a specific

country, they are often not centered around the concept of loneliness.

It is apparent, after examining the research, that loneliness and social isolation have distinct impacts on health and well-being. Beller and Wagner (2018) and Kraav et al. (2021) established a relationship between subjective loneliness and mental health outcomes. Both of these studies used population-based surveys from Finland and Germany, respectively with samples of over 3000 people. Yu et al. (2020) affirmed that while there was a connection between loneliness and depression, only social isolation was significantly associated with cognitive impairment. Yu et al. (2020) was also able to identify a connection between loneliness and hypertension and general poor health, while social isolation did not yield that relationship.

Multiple studies did find a correlation between an increase in social isolation and an increase in loneliness (Shanker et al., 2017; Cohen-Mansfield et al., 2016, Yu et al., 2020, Bai et al., 2021). Cohen-Mansfield et al. (2016) and Kim et al. (2022) did find that loss of social network resulted in an increased risk of loneliness. While Bai et al. (2021) found that the lack of social participation and social trust seemed to correlate with loneliness. Kim et al. (2022) went further to identify that the quality of these social connections influenced loneliness. Kim (2022) only used one question to assess for loneliness, which may not actually capture all participants who experienced loneliness. Conversely, Beller and Wagner (2018) did not find a connection between the quality of an individual's social network and the likelihood of developing loneliness.

Overall, there seems to be a connection between social isolation and the implications risk of developing loneliness. The nature of an individual's social network

may play a role in the likelihood that an individual will develop feelings of loneliness as well as other demographic factors including marital status, socioeconomic status and age (Cohen-Mansfield et al., 2016; Holt-Lunstad et al., 2015; Kim et al., 2022). Many studies on social isolation and loneliness were able to identify differences in their impact based upon health outcomes (Beller & Wagner, 2018; Yu et al., 2020; Kraav et al., 2021). The research is mixed on the direct connection between social isolation and loneliness and health outcomes. However, research appears to support the impact of loneliness on depression and the impact of depression on a variety of health outcomes.

Is there evidence that social isolation or loneliness is correlated with health outcomes? When examining the evidence on social isolation, loneliness, and its impact on health, there are strong indicators of possible causation, specifically related to mental health outcomes. Strong associations have been found between either social isolation or loneliness and negative mental health outcomes; these include depression and anxiety (Collins et al., 2020; Lee et al., 2019; Smith & Victor, 2019; Beutel et al., 2017). That said, it is also understood that there is a reciprocal relationship between depression and loneliness, meaning they influence one another (Luo et al., 2012; Beutel et al., 2017; Smith & Victor, 2019; Collins et al. 2020). However, Buchman, et al. (2010), found loneliness was correlated with other factors even when depression was accounted for, indicating depression may be a moderator in causing loneliness but it is not a pre-requisite. There has been a plethora of research conducted on the topic of social isolation, loneliness, and its impact on health outcomes. There has also been substantial research on the reciprocal nature of the loneliness and depression. Despite extensive research, the

exact relationship between these factors remains unclear (Smith & Victor, 2019; Barnes et al., 2022).

There is inadequate evidence to support the connection between loneliness and physiological health outcomes. Poor self-rated health as a possible outcome of loneliness is more clearly represented in the literature (Smith & Victor, 2019; Beutel et al., 2017; Luo et al., 2012), while experiencing both social isolation and loneliness increases the risk of excessive healthcare utilization (Gerst-Emerson & Jayawardhana, 2015) and emergency room visits (Barnes et al., 2022; Voltorta et al., 2016). Barnes et al. (2022) found 35% of those experiencing both social isolation and loneliness reported utilizing the emergency room annually compared to only 26% of those who reported only experiencing social isolation. Those experiencing loneliness and social isolation are also at an increased risk of stroke and congestive heart failure (Valtorta et al., 2016).

While Valtorta et al. (2016) established a strong association between poor social relationships and increased incidence of coronary heart disease, they identified that additional factors, such as stress, may moderate the impact. This is substantiated by Lou et al. (2012), who found that loneliness did have an impact on emotional and physical health. In turn, emotional and physical health had an impact on mortality, however, loneliness alone did not directly impact health outcomes. This lack of direct connection between loneliness and health outcomes is substantiated by Gerst-Emerson and Jayawardhana (2015) who found that while doctor visits are more common in people that experience loneliness, it does not result in greater risk of hospitalization. Mehrabi and Beland (2021) also found that social isolation or loneliness did not directly result in

worse health outcomes, but moderators exist that can impact the size of the effect between loneliness, social isolation and physiological health. These conclusions contrast with Holt-Lunstad et al. (2015), who found both social isolation and reported loneliness did result in higher risk of mortality. Collins (2020) also supported that social isolation and loneliness increases the risk chronic health conditions. Collins (2020) and Valtorta et al. (2016) were both meta-analyses of studies derived from research from developed countries and the other studies on health outcomes also typically come from developed, westernized countries.

Is there evidence that retirement has an impact on the development of loneliness and social isolation? While the literature supports a connection between retirement and loneliness, the moderators that might impact this connection are not well understood. Bjelajac et al. (2019) and Abrans, Finlay and Kobayashi (2021) confirmed that those who were experiencing unplanned unemployment were much more likely to be experiencing loneliness. One possible explanation for this association is addressed by Kim et al., (2022) in a Korean sample, who found that following retirement, individuals experienced a change in the size of their social network which had a negative impact on amount of loneliness. According to Shin et al. (2016) and Gallo et al., (2000), involuntary job loss has a higher correlation with worse mental and physical health problems. Beutel et al. (2017) also found individuals with a history of unemployment were more likely to experience loneliness. This may be, in part, explained by Hajek and Konig (2020) who identified loss of income as being associated with increased risk of loneliness. The importance of financial security is reinforced by Cruwys et al. (2019) who found a

connection between financial security predicting social connection, which can help decrease risk of loneliness. In retirement it is common for income to decrease, so this factor may contribute to the overall effect. Collins (2020) also found an increased risk of developing loneliness when an individual lacked in financial resources.

Given the established connection between depression and loneliness, it is important to consider that the literature on retirement is consistent in its findings that those experiencing loneliness are also more likely to be depressed (Hajek & Konig, 2020; Gallo et al., 2000; Bjelajac, 2019). Another possible explanation for the connection between loneliness and retirement is reversing the proposition. Sprod et al. (2017) and Morris (2020) found that being lonely significantly predicted work disability, which resulted in retirement. Therefore, loneliness may predict retirement. Abrams, Finlay and Kobayashi (2021) also began to explore the possibility that depression may result in unemployment. There is clear evidence to suggest that retirement increases the risk of developing loneliness however there are moderators that mitigate the risk. These factors include pre-retirement mental health as well as social networks and financial security.

Does loneliness and social isolation impact function and the performance of activities of daily living? There is very limited research on the impact of social isolation and loneliness on performance of activities of daily living, or the impact of performance of activities of daily living on social isolation and loneliness. However, there is some research on the association between social isolation and loneliness and motor function, which correlates with functional performance. Some research supports that an increase in functional impairment correlates with decreased social participation or loneliness (Hajek

& König, 2020; Shankar et al., 2017; Hacihasanoglu, 2012), however Bondevik, et al. (1998) found the opposite to be true; increased dependence in ADL correlated with lower levels of emotional loneliness while high levels of independence correlated with high levels of emotional and social loneliness. They postulated that increased dependence resulted in additional support persons who provided a mechanism to alleviate loneliness.

Menec (2003) supported that continued engagement in meaningful activities prevents a decline in wellness which has a benefit of lower levels of social isolation, while Shankar et al. (2017) concluded that those experiencing loneliness were more likely to self-report disability. People living with specific diagnoses were more likely to report social isolation and loneliness namely cardiovascular disease, lung disease, depression and arthritis (Shankar et al., 2017). Buchman et al. (2010) and Yu et al. (2020) both found that those experiencing loneliness were more likely to develop declines in motor control. Yu et al. (2020) conducted a 5-year cohort study involving a Chinese population while Buchman et al. (2020) conducted a 12-year study involving older adults from Illinois. Yu et al. (2020) found that social isolation correlated with a decline in grip strength in men while loneliness correlated with a decline in grip strength in women. Conversely, Buchman et al. (2010) found both subjective loneliness and objective social isolation both correlated with a decline in gross motor functions. In fact, they found for each one point of higher loneliness on the Jong-Gierveld Loneliness Scale, there was a 40% more rapid decline in motor function. Overall, it is not yet possible to establish that loneliness causes a decline in function. However, there is ample evidence to support a connection between loneliness, social isolation and functional performance.

Limitations of Studies

Most of the studies identified used survey data collected for a variety of purposes beyond the scope of studying loneliness and social isolation. Many used self-report measures which can limit accuracy. Many of the studies and meta-analyses also relied on cross-section studies so that long-term implications and proof of causation are not possible. Additionally, many of the studies that assessed loneliness asked directly about loneliness, using tools like the UCLA loneliness scale. Given the stigma surrounding loneliness, there is a possibility that people may not have answered questions on loneliness honestly. Additionally, most studies related to depression and health were conducted in westernized countries, therefore, the results can not be generalized to other cultures.

CHAPTER THREE – Overview of Current Approaches and Methods

Literature Review of the Interventions

What are the qualities of effective interventions to address loneliness in retired older adults? This question has been receiving increasing attention. To identify the most effective interventions, the PubMed and CINHAL databases were utilized. Additionally, the literature search was limited to articles published after 2010. Search terms included: "older adults, loneliness, social isolation, and interventions." When "retirement" or "retired" was included in the search terms, only one relevant article was identified (Heaven et al., 2013).

Loneliness has long been recognized as a health problem. Interventions to address loneliness in older adults has become more researched in the past decade. Additionally, the pandemic has made it even more apparent that loneliness has major implications for health and well-being that need to be addressed. As a result, more studies, meta-analyses and reviews have been conducted over the past few years which provide greater insight into the most effective interventions that have been developed to address loneliness and social isolation.

Qualities of effective interventions included interventions that are theory-based (Heaven et al., 2013, Dickens et al., 2011, O'Rourke et al., 2018, Cattan et al., 2005); have a social component (Dickens et al., 2011, Stancliffe et al., 2015, Turcotte et al., 2018, Gardiner et al., 2018); and involve active participation (Dickens et al., 2011, Franck et al., 2016). More recent systemic reviews have evaluated interventions based upon the specific area they address. These include leisure activities, psycho-social

approaches, and social-cognitive approaches (Fakoya et al., 2020). Additional approaches that have shown some positive effect include reminiscing (Franck et al., 2016) which was effective for reducing social isolation and depression; mindfulness and stress reduction (Gardiner et al., 2018; Veronese et al., 2021) which was effective for reducing social isolation and loneliness. However, Veronese et al. (2021) pointed out that the quality of meta-analyses and systemic reviews evaluated in their paper were of such low quality that there was low certainty of evidence.

While many studies have examined the effectiveness of interventions to address loneliness, only one systemic review has provided to be an overview of the most successful interventions to address well-being following retirement. Heaven et al. (2013) identified seven studies after reviewing over 9,000 possible articles. This systemic review did not explicitly address loneliness; however, there was tentative evidence that meaningful social roles may be beneficial for improving well-being following retirement. Stancliffe et al. (2015) completed a matched intervention with a comparison group study specifically related to retirement transition for people with disabilities and the use of mentors. While social satisfaction improved, there was no change between groups related to quality of life or loneliness (Stencliffe et al., 2015).

The only concept that is consistent across the literature is that multi-component programs appear to be the most effective (Smallfield & Molitor, 2018; Turcotte et al. 2018; Poscia et al., 2018). For example, in Matuska et al. (2003), a group program contained education on the value of meaningful occupations, group problem-solving on overcoming barriers to occupation, homework including tracking routines and energy

levels (to assist in the development of mindfulness), and time for social participation. Additional successful program components included leisure activities that maintain social contact, adaptability of the intervention to local contexts, and community development approaches (Gardiner et al., 2018). Many authors also noted that the most effective interventions had a theoretical base (O'Rourke et al., 2018). Veronese et al. (2018) and also noted that given the diverse causes of loneliness, interventions must also be diverse and individualized based on the individual's needs.

Duration and frequency of treatment varied greatly; however, Heaven et al. (2013) found that interventions lasting between 2 hours to 20 hours per week were effective at improving life satisfaction. Turcotte et al. (2018) found most group interventions were 45 minutes to 3 hours long when facilitated by an occupational therapy practitioner with a typical duration of 4–36 weeks. One-to-one interventions varied in session duration between one and sixteen weeks. Cohen-Mansfield and Perach (2015) similarly found that of 33 quantitative intervention studies that addressed loneliness in older adults, most programs lasted 6 weeks to 16 months with between 5 and 18 sessions.

Many of the meta-analyses and systemic reviews on the literature categorized interventions based on format, delivery mode, goal, type, focus, and nature (Fakoya et al., 2020). Most of the reviews found group interventions to be successful (Cohen-Mansfield et al., 2018; Dayson et al., 2021, Poscia et al., 2018). Other studies examined both group and individual interventions and their possible positive impacts. Sabir et al. (2009) found that while group interventions were more effective, there was promise in the use of

individual treatment, especially for frail, homebound older adults. Cattan et al. (2005) found one-to-one interventions may be more effective if the person delivering the intervention is from the same generation. Interventions that addressed active participation using meaningful activity in a group setting and interventions that used cognitive behavioral approaches were typically also found to have a positive effect on either social isolation or loneliness (Kall et al., 2020; Smith et al., 2021).

Quality and Limitations of Current Research

The literature on interventions to address loneliness is far from conclusive. Many of the sources have identified barriers to high-quality, reliable research. These barriers include a lack of concrete definitions and assessment criteria on loneliness (Heaven et al., 2013, Roberts & Windle, 2020, Franck et al., 2016, Gardiner et al., 2018, Dickens et al., 2011); a lack of theoretical basis for interventions (Fakoya et al., 2020, Gardiner et al., 2018, O'Rourke et al., 2018); and lack of randomization which increases risk of bias (Masi et al., 2011).

Fakoya et al. (2020) provided definitions of social isolation and loneliness that should be adopted universally for the purpose of consistency across research. "Social isolation can be defined as 'a state in which an individual lacks a sense of belonging socially, lacks engagement with others, and has a minimal number of social contacts which are deficient in fulfilling quality relationships.' While loneliness can be defined as a 'subjective state based on a person's emotional perception of the number and/or quality of social connections needed in comparison to what is being experienced at the time'" (Fakoya et al., 2020, p. 9). It is made abundantly clear in the research that these two

concepts are distinct. However, interventions regularly do not distinguish if the intervention is designed to address social isolation, loneliness, or both. Additionally, if they do attempt to distinguish between the two concepts, the way researchers aim to measure these concepts is limited. For example, Smith et al. (2021) only included one question to assess for loneliness.

CHAPTER FOUR – Description of the Proposed Program

Basis of the Proposed Program

Program Details

Not in it Alone is a community-based, closed-group intervention designed to address loneliness in older adults who are retired. Inclusion criteria include retired older adults who are members of The Village Chicago, a not-for-profit organization with 450+ members with the goal of promoting aging in place. This program will benefit participants as well as The Village Chicago, which will be able to promote programs like this to retain and recruit new members and possibly other Villages that are interested in interventions to address loneliness.

Problem being Addressed

The program is seeking to address the problem of loneliness experienced by retired older adults. According to Beutel et al. (2017), about 10.5% of community dwelling adults experience some degree of loneliness. Loneliness is also associated with depression, anxiety, suicidal ideation, smoking and frequent doctor visits (Beutel, 2017). Ye Luo et al., (2012) also found that loneliness is also associated with mortality risk, functional limitations, and marginal effects on later self-related health (Ye Luo et al., 2012).

The theoretical constructs used to develop this intervention include the social cognitive theory and the evolutionary theory of loneliness. The evolutionary theory of loneliness has many postulates that are useful for program development. The repair/replacement postulate asserts that being lonely motivates individuals to attend and

approach social stimuli. Additionally, the aversive signal postulate proposes that the brain is inclined towards certain ways of thinking, feeling and acting and humans have an aversion to feeling lonely, so that when humans experience loneliness, the brain alerts the self to threats to our well-being (Cacioppo & Cacioppo, 2018). This theory can be paired with the social cognitive theory, which is based on the concept of reciprocal determinism, which asserts that environmental, behavioral, and cognitive processes interact and effect one another (Bandura, 1986). Together, it is possible to develop an intervention process whereby the individual is motivated to learn, and when provided with the necessary social environment and cognitive education, change can occur.

Explanatory Model

In this explanatory model (see *figure 4.1*), individuals participate in a social/educational group for eight weeks. The intervention, being informed by the social cognitive theory, incorporates the environment, which includes the learning environment, including peers; behavior change, which will include exposure to both social opportunities and volunteer opportunities; and internal personal factors, which will include cognitive behavior therapy strategies. The environment is a component which will also tie in the evolutionary theory of loneliness's salutary relationship postulate, which posits that social interactions and reliable social interactions can improve survival and are beneficial (Cacioppo & Cacioppo, 2018).

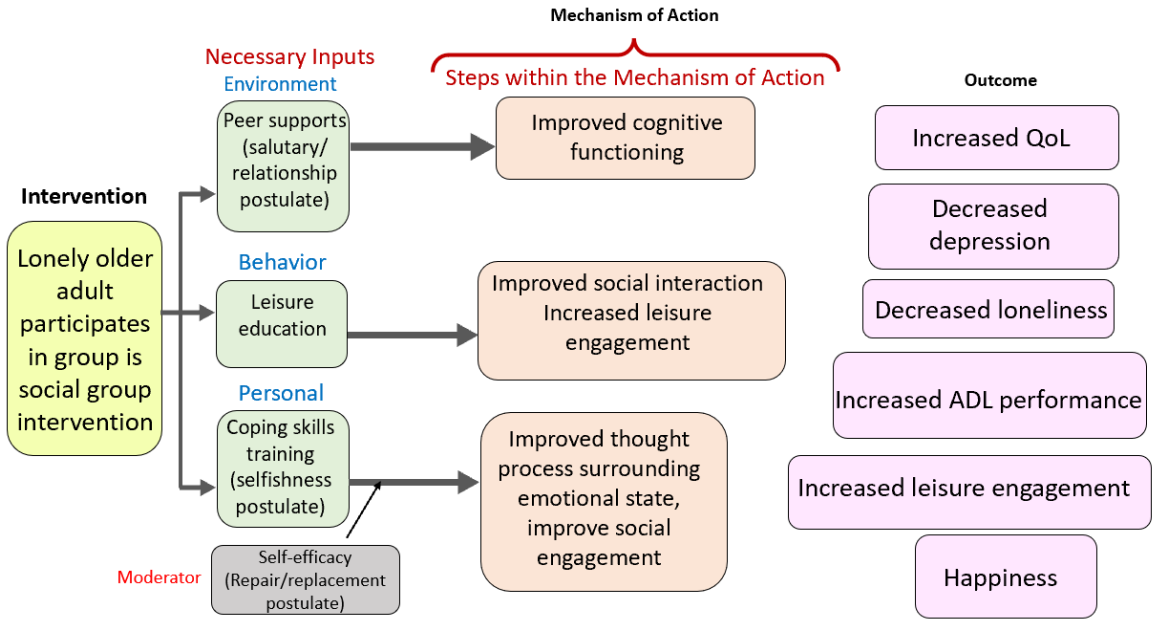
The peer support mechanism that will be developed among members of the group may result in reduction in depression and increase in behavioral activation (Solomonov et al, 2019). Specific to occupational therapy-based interventions, promoting participation

can result in improved health, wellness, and quality of life (Pizz & Richards, 2017). Change in environment via peer supports and education can in-turn result in behavior change, which may include increased social participation (Po-Ju Change, 2014; Smallfield & Molitor, 2018). Finally, use of coping skill development, more specifically, the use of cognitive behavior therapy strategies can be an effective intervention for decreasing loneliness (Masi & Cacioppo, 2011; Cohen-Mansfield, 2018). Overall, outcomes from a program that includes these components could include improved quality of life (Collins, 2020), decreased depression (Domench-Abella, 2017), decreased loneliness (Cohen-Mansfield, 2018), increased ADL performance (Shankar et al., 2017; Mahmud et al., 2020), improved leisure engagement (Po-Ju Chang, 2014), and happiness (Menac, 2003).

One significant moderator is self-efficacy. Self-efficacy theory was developed in conjunction with Albert Bandura and can be thought of as both independent and in collaboration with the social cognitive theory. Self-efficacy is considered a part of the person and can be improved with education and training. High self-efficacy is associated with improved coping; therefore, this intervention will also work to address self-efficacy using cognitive behavioral therapy strategies (Wan-Yim et al., 2009).

Figure 4.1

Social cognitive theory with the evolutionary theory of loneliness used as a mechanism of action for program development.



Engagement of Stakeholders

This program will be piloted for the Village Chicago so that the initial stakeholders will come from within The Village. The micro-level stakeholders include individuals who will be participating in the therapeutic group. On a more meso-level, an important key stakeholder group will include The Village's board of directors. This includes 20+ individuals, including the author, who are responsible for overseeing Village operations. Board members are typically very well connected both within the Village and in Chicago so that their buy-in can assist with recruitment and identifying possible funding sources. Another important key stakeholder is Village staff, which includes about seven part- and full-time individuals with backgrounds varying from communications to marketing to

social work. The program also has implications for other Villages around the country, which include over 100 separate organizations.

Engagement of employees and Village board members is imperative for the recruitment process. Loneliness can be embarrassing for people to talk about so word-of-mouth will be imperative for empowering individuals to participate in the group. The pandemic has exacerbated societal concerns about loneliness and the topic is gaining much more publicity on a global level. The Village Chicago has already identified loneliness as a significant problem affecting older adults and has already worked to secure grant funding from organizations like The Retirement Foundation to better meet member needs. The board is already enthusiastic about additional program options to offer to members.

Program Objectives

The author intends to work on the increased demand for interventions that address loneliness by providing a closed group to a small number of Village members, to create peer supports, to improve their use of strategies to improve their self-efficacy and to identify future roles to increase participation in meaningful activity. The program will build on itself to develop participants' sense of self while giving them opportunities between sessions to trial their new strategies. The goal is to decrease loneliness, improve social networks and improve quality of life.

Logic Model

The intervention will consist of eight 1.5-hour sessions designed to help participants address personal feelings of loneliness. A simplified version of the logic

model can be found below in *figure 2* and the full logic model can be found in *figure 3.* Outputs of the program will include the number of participants, the number of sessions they participate in, and the number of handouts participants complete. An additional component will be the creation of a toolkit which will allow for the program to be replicated by others. Another program output will be the number of toolkits that are requested and distributed.

Short-term outcomes will include participants' understanding of the importance and nature of social networks, increased awareness of community and organizational resources available to assist with the management of loneliness, and increased knowledge of cognitive behavior therapy strategies that can be used to address loneliness. Intermediate outcomes, after the program is complete, will include self-assessment of loneliness as well as number and quality of social contacts. Long-term outcomes, taken 3 months and 1 year after the program concludes, include measurement of depression, general wellness, and perceived health.

Figure 4.2

The simplified logic model for the proposed program that visualizes the connections between resources, interventions and expected results

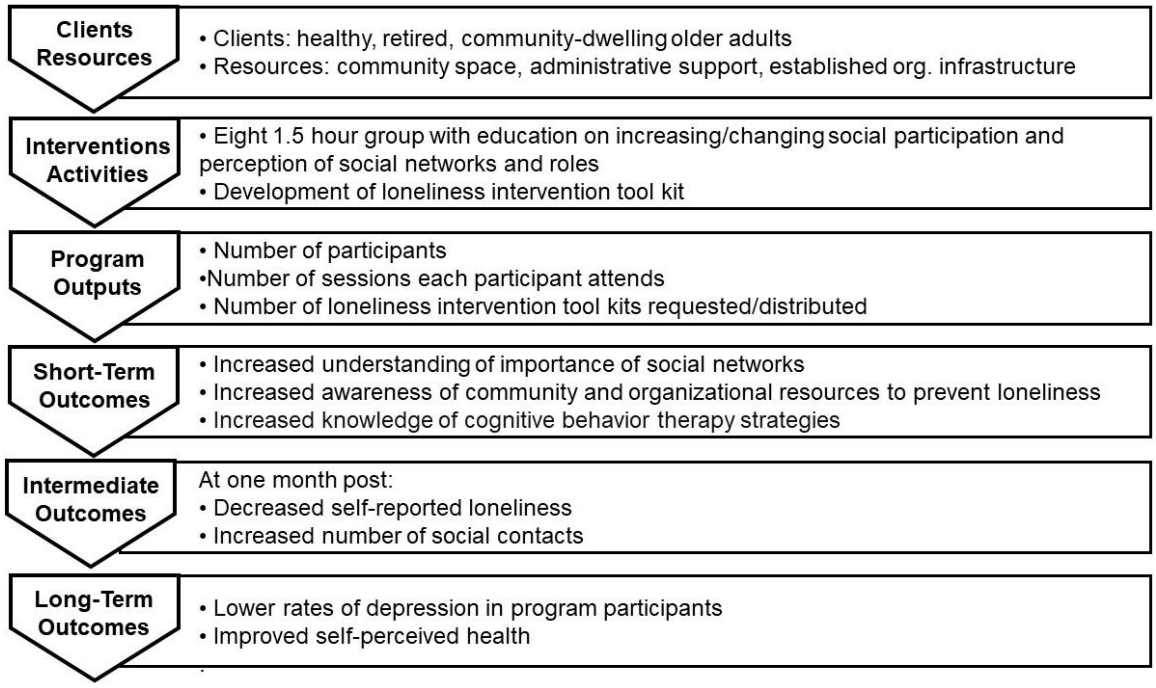
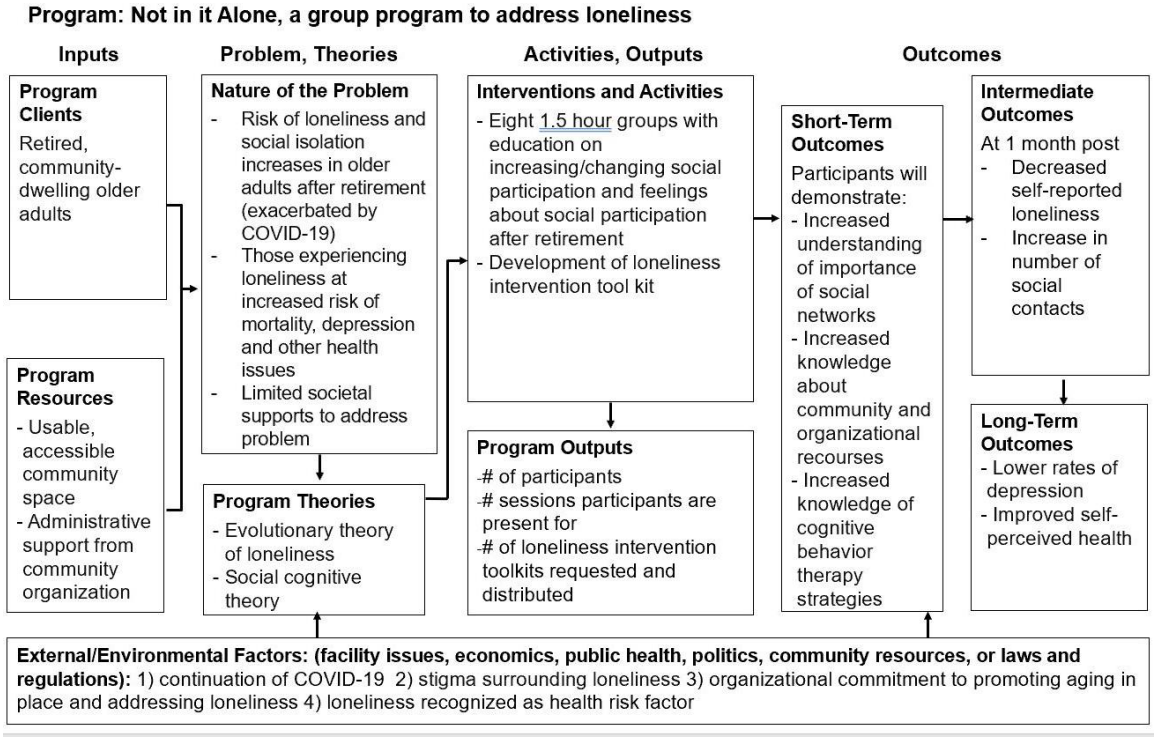


Figure 4.3

Full Logic Model



Program Participants and Resources

This author will be the main leader of the program. The other person primarily involved in the program will be a Village staff member, specifically a social worker who can provide information on resources available in the community and through the Village. The social worker may also be involved in other components such as recruitment and follow-up after the program concludes. The Village office also has access to a printer, laminator, other office supplies and volunteers to assist with any clerical tasks such as making photocopies.

Program participants will be limited to Village Chicago members who are all

older than 50 and live in the Chicagoland area. Additional criteria for enrollment for this program include individuals that self-identify as lonely and are retired. Participants must also have the ability to leave their homes and feel comfortable participating in the group. Additionally, they must also not have a diagnosed cognitive impairment. Cognitive behavior therapy is most effective in typically functioning individuals because it requires the use of executive functioning, which is compromised in individuals with cognitive impairment.

Program Logistics

This program will be delivered live in a group setting in either the Village office or at St. Joseph Hospital's facilities. Both are located close to public transportation with some parking availability. If the pandemic continues to persist or interested individuals report difficulty getting to the location because of either mobility limitations or weather concerns, the program may be conducted virtually. Participants will all be members of The Village Chicago and they will be recruited using peer networks, starting with Village board leadership who will work to identify friends and members who may be experiencing loneliness. The Village office staff keep a running list of members who they believe are 'at risk' of a variety of problems, including loneliness. The Village also runs a connectors program that connects isolated Village members with other members/volunteers, which may also serve as a pool of people to pull possible participants from. Prior to the launch of the official program, one or more info-sessions/educational events on the topic of loneliness will be held to help draw interest. Like other Village events, this program will be included in The Village calendar and bi-

monthly member memo.

Group Intervention

The program is planned to last eight consecutive weeks, once a week for an hour and half. Prior to the program start, a scheduling application will be used to determine the best time for all participants. Each intervention session will begin with an icebreaker to give participants the opportunity to get to know one another better. They will also review their homework from the prior session to re-orient everyone to the program content. Each session will have a different theme. A list of each session's titles can be found in appendix B. The first session, entitled, "where are we going, where have we been," will focus on getting acquainted, discussing reasons people may have chosen to participate in the group, reviewing group rules and educating participants on the basics of how to set goals and then actually writing goals. Another session, "thinking up and out," will provide participants with foundational knowledge on emotion identification and cognitive behavior therapy strategies. Homework will include using a handout to provide guidance on thought changes and behavior change. In appendix C a sample lesson plan for "thinking up and out" can be found.

Most sessions will include a blend of lecture, group discussion, uses of handouts and homework for between session times. Participants will be given a binder to keep their handouts together. There will be very limited use of technology as this demographic is already familiar with how to use basic communication tools like zoom and the focus of the group is reconnecting in real life. It is important to have a physical space that comfortably fits the group. The Village office has an appropriate, accessible conference

room and St. Joseph Hospital also has those types of available space that are available for this author.

Program Educators

The primary educator will be the author, who will run each session. Additional educators will include a Village staff member, a trained social worker, as well as other community members who participate in post-retirement meaningful roles. These community members will only participate in one session, a 'volunteer fair', so that group members can get an idea of what they might want to do to occupy their time and new roles they might be interested in taking on.

Program Outputs and Outcomes

Program outputs are formative and will include the number of sessions and the number of handouts each participant completes. Quantitative data will be completed by participants on their own at home or in the setting where the program will occur immediately before the start of the program. Quantitative data will only be collected from the program participants, no more than 12 people. All quantitative data is self-administered surveys so there is no concern over the impact of data collector bias or reliability from an assessor.

Variables and Measurement

Important independent variables identified in the research include co-habitation status, gender, voluntary or involuntary retirement and socio-economic status. The variables being evaluated are loneliness, social participation, mental health status, physical health, and perceived health. There is a variety of standardized measures that has

been used with this population to address these variables.

Loneliness will be measured using the Revised UCLA Loneliness-6 (RULS-6) Scale. This is considered the gold standard in loneliness research and is comprised of 6 questions, down from 20 in the original UCLA Loneliness Scale. The correlation between the original UCLA Loneliness scale and the RULS-6 was r=.883, with r >.7 being acceptable. Overall, the RULS-6 has acceptable reliability and validity and is much shorter than the original assessment with acceptable internal consistency and validity (Wongpakaran et al., 2020). A copy of the RULS-6 can be found in Appendix D.

Social networks will be evaluated using the Lubben Social Network Scale (LSNS). It is a measure of social engagement with friends and family. The 6-item version (LSNS-6) has been validated and has an internal reliability of .83. This measure is also correlated with mortality, hospitalizations, health behaviors, depression, and general physical health (Lubben et al., 2006). While there has been concern about the appropriateness of two items based on a Rasch model, it is still the most used assessment for community-dwelling older adults (Gray et al., 2016). A copy of the LSNS-6 can be found in Appendix E.

The Patient Health Questionnaire-9 (PHQ-9) will be used to assess for depression. It has been shown to be sensitive when compared to semi-structured and structured interviews for identifying depression and is particularly sensitive in older adult populations (2019). It was found to have a sensitivity of 88% and specificity of 88% for major depression (Kroenke, K. et al., 2001). A copy of the PHQ-9 can be found in the original article validating the measure (Kroenke, K. et al., 2001).

To assess for self-rated health, the first question in the Short Form Questionnaire, "In general, would you say your health is 1) excellent 2) very good 3) good 4) fair 5) poor" will be used. It is unclear if health will function as a moderator for depression, loneliness or social networks so it is important to evaluate participants' general feelings about their health.

In total, participants will answer 22 questions, primarily using Likert scales prior to the start of the program, immediately after the program, and 12 months after the program ends. Each of the three standardized assessments is supposed to take no longer than 5 minutes, so less than 15 minutes will be required to complete the survey.

Desired Outcomes

The greatest anticipated change for loneliness and social network change is expected to happen between the initial assessment, pre-program and immediately following the program. The PHQ-9 has some questions related to general health, so it is possible that there will be a larger, more positive change between the initial assessment and the 12-month follow up assessment. The 1-year post-intervention assessment is to evaluate if outcomes were sustainable over time, after the end of the intervention.

Barriers and Challenges

The greatest challenges foreseen in this program include recruitment and participants missing sessions. The first problem connects with the issue of stigma surrounding loneliness. Getting individuals to admit to their own experience of loneliness may be challenging. Therefore, board members will be used to recruit members. Given that this is a pilot program that is designed to help larger groups of

people, tapping into individual's altruism, and desire to help others, may facilitate participation. The second challenge of ensuring participants show up is both a logistical challenge and issue of volition. Having participants complete a when-to-meet to assess their availability addresses the logistical problem. Providing participants with a schedule of all the sessions, including their titles and general goals while also providing education on how important full participation is, should help mitigate this risk. Reminder phone calls or text messages, depending on participant preference, will also be provided the day before each session.

CHAPTER FIVE – Program Evaluation Research Plan

Program Scenario and Stakeholders

Not in it Alone is a community-based intervention designed to reduce loneliness in members of The Village Chicago, a community-based organization dedicated to helping older adults feel engaged and derive meaning from within their communities. This program will benefit participants as well as The Village Chicago, which will be able to retain more members and promote programs like this to retain and recruit new members and possibly other Villages that are interested in interventions to address loneliness.

This program will be delivered live in a group setting in either the Village office or St. Joseph Hospital's facilities. Both are located close to public transportation with some parking availability. If the pandemic continues to persist, or interested individuals report difficulty getting to the location because of either mobility limitations or weather concerns, the program may be conducted virtually.

This author would be the main leader of the program. The other person primarily involved in the program would be a Village staff member, specifically a social worker who can provide information on resources available in the community and through the Village. The social worker may also be involved in other components such as recruitment and follow-up after the program concludes.

The Village will use the research findings to determine if the program is worth continuing and will leverage that data to assist with grant applications. The data will be of interest to Village members who did not participate in the group but may be motivated to

join future programs because of the expected outcomes. Other Villages may use the research findings and toolkit that will be created to start their own version of the program. The Villages' strategic partners and collaborators, like CJE SeniorLife, Center on Halsted, Mather LifeWays, and Rush Medical Center may also be interested in the outcomes and potentially help implement and disseminate the toolkit being built as a part of this program. On a larger scale, research findings may be of value to other clinicians working in community settings interested in using effective, evidence-based strategies to reduce loneliness.

Practice Scenario

Based on best available evidence, at least 10% of the population experiences loneliness at any given time (Beutel et al., 2017). In light of the pandemic, there is more comfort discussing loneliness. Within The Village Chicago, health and wellness are of interest to many members. Many Village members would be interested in this program because they are more aware of the impact of loneliness on health outcomes. Additionally, many feel the desire to contribute to the community and know participation in research is one way to achieve that goal.

Vision

The goal of program evaluation research for this program is to determine if this intervention is effective at decreasing loneliness in community-dwelling older adults using the Revised UCLA loneliness scale, the most used assessment tool in loneliness research. Additional outcome measures will provide insight into whether the program assists in decreasing social isolation, depression, and perception of general health. The

literature has identified a correlation between depression and loneliness as well as health and loneliness, so determining if this program addresses these correlated areas has value.

While it is understood that there are interventions that may be effective in reducing loneliness, there is not definitive research on the role and value of occupational therapy interventions for addressing loneliness (Smallfield & Molitor, 2018). For Villages around the country, this program could address the programming gap in loneliness because while Villages tend to be excellent at addressing social isolation, there are fewer programs designed to specifically address loneliness.

Engagement of Stakeholders

This program will be piloted for the Village Chicago so that the initial stakeholders will come from within The Village. This author will also be working to acquire grant funding to run this program and make it sustainable so that any foundations that provide grants may also become stakeholders. The Village's key stakeholders will include its board of directors. This includes 20+ individuals who are responsible for overseeing Village operations. Board members are typically very well connected both within the Village and in Chicago so that their buy-in can assist with recruitment and identifying possible funding sources. Another important key stakeholder is Village staff, which includes about seven part- and full-time individuals with backgrounds varying from communications to marketing to social work.

Getting buy-in from the Village's CEO, and the Director of Health, Wellness and Member Services and the head of the research committee are all important for ensuring the success of the program. The CEO is an exceptional fundraiser and is always

interested in adding value to the Village. She will be helpful in identifying possible funding sources and promoting the program and research results beyond The Village.

The Director of Health, Wellness and Member Services is a social worker. She also oversees the social work intern program. A great deal of support from her will be necessary to complete member outreach to recruit participants. She will also allocate time for the social work students to assist in data collection, specifically the semi-structured interviews with participants, which will be an important part of the qualitative data.

The head of the research committee is a retired occupational therapist with a background in research. She also has an MBA which may also be helpful when thinking about funding opportunities. The research committee includes other individuals with backgrounds in conducting research from a variety of disciplines allowing them to provide support.

Stakeholder logistics

Moving forward, in light of COVID-19, the majority of communication will occur either by phone or email. The head of research only lives in Chicago part time so that communication during winter months will only happen over email or by phone.

For many of the stakeholders, being able to promote the Village Chicago as a leader in the area of aging-in-place is valuable. When writing up agendas for meeting with key stake holders, information from the Village mission statement will always be included**, "**We support all aspects of well-being through social engagement, an extensive services and referral network, health and fitness, intergenerational relationships, work and purpose" (2021). This will affirm the connection between the program and the

organization's mission and goals. A simplified logic model will be shared with stakeholders during initial meetings so they can understand the program process and goals *(see figure 4.2*).

Program Evaluation Research Questions by Stakeholder Group

Table 5.1

Types of research questions addressed by the program divided by stakeholder

Stakeholder or Stakeholder Group	**Types of Program Evaluation Research Questions**
Researcher	• Quantitative question: Will the program participants report a decrease in loneliness after the end of the program? • Qualitative question: Will the program participants report feeling confident applying the program content? • Are outcomes consistent with the proposed theoretical justification based upon the Evolutionary Theory of Loneliness?
Program participants	***Qualitative:*** • Was the information presented relevant? • Was the information presented at the appropriate level or was it too easy or too complicated? • Was teaching delivered at an optimal pace and intensity for learning? • Was the program duration adequate, or should it be shorter or longer? • What aspects of the program were useful or effective? • Is there anything that should be changed to improve program content or delivery? • What other key issues or problems faced by participants were not addressed in the program? • What resources presented in the program have you used? And how helpful were they?

	Quantitative: • Did participants gain needed knowledge consistent with program goals? • Did participants report a decline in symptoms of loneliness? Depression? • Did participants have an increase in the size and/or quality of their social network • Did participants have an improvement in their perceived health? Well-being?
Village Board, Staff, and CEO	***Qualitative:*** • Does the content of the program align with organizational goals? • Is the program delivery format suitable for Village members? • Did recipients of the intervention and family members report a favorable experience with the program? • Were any problems or issues reported? • Did external factors impede execution of the research methodology? • Do participants have increased participation in other Village programs? ***Quantitative:*** • Will the research data show that the intervention led to desired change in dependent variables of interest (depression, well-being, loneliness)? • Can the research data be used to demonstrate improved well-being for recipients of the intervention? • What were the rates of program attendance?
Organizations that may underwrite grants and organizations interested in implementing the program	***Qualitative:*** • Do participants report value in participating in the program? • Are participants confident that they can use strategies used in the program to address feelings of loneliness? • Are the long-term goals of the project (improved health and decreased symptoms of depression) realistic and achievable?

	Quantitative: • Can the research data be used to demonstrate desired change in participants level of loneliness? • Considering loneliness is a factor that includes health outcomes, does the program demonstrate the importance of this type of program? • Will findings demonstrate that the program's content matches the knowledge to address a gap in the research on effective interventions for treating loneliness?

Preliminary Exploration and Confirmatory Process

Confirmatory Process

For the time being, all meetings will be held virtually. The key stakeholders engaged include 1) the Village board, 2) the Village CEO, 3) Village office staff, 4) the research committee. For each group, an overview of the program, including the simplified logic model, and a summary of the literature will be provided. This information will be provided to each stakeholder group one-week prior to the meetings because many of the participants prefer to enter meetings prepared. Additionally, for those who prefer to look at materials immediately before a meeting, a couple of minutes at the beginning of each session will be allotted for participants to review the information.

First, at a Village board meeting, board members will be asked to volunteer to be a part of an advisory group/focus group that will meet three to four times. The board members will be made aware that they will have to consent to the sessions being recorded in order to participate. Prior to the start of the program, one to two focus groups for self-selected board members will be held: once prior to the program for formative information

and once after the program ends to report and reflect on the findings. By initially letting board members know about meeting frequency and program goals, those most enthusiastic will naturally opt-in. Board members will also be encouraged to invite non-board members to the focus group who they think would be interested. This can be used for recruitment and to diversify the focus group to those that are less actively involved in community programs, who are more likely to be lonely or socially isolated.

During the initial board advisory meeting, as a part of the preliminary exploration process, the tone for the meeting will be set by letting participants know that their time and knowledge is respected and that we all share the same goal of making sure this program is helpful for Village members. A second session will be pre-scheduled in case time runs out or there is a need to synthesize ideas from the first meeting. This will ensure clarity of the valuable feedback provided. In addition to the simplified logic model and literature review, a sample lesson plan of a session will be provided. The goal is to ascertain their perception of what loneliness is, how common it is, and how much of a problem they view it to be. This will give a sense of what the target demographic thinks about the problem, as the board members reflect a demographic of the Village. It will also be useful to collect their thoughts and identify if they feel the sample program would help to address loneliness and if other strategies or ideas would be helpful. That feedback can be integrated into the program or assist in the confirmatory process.

Secondly, there will be a separate meeting with the CEO and bi-monthly check-ins to let her know about the progress of the program and to collect her input. The CEO changes the dynamic of a space; therefore, having separate meetings for board members

and the CEO is important. During these check-ins, the CEO can provide feedback on additional people, organizations or resources that might be considered. The program should be easy for her to promote to other organizations, so her assistance with the exploration process will ensure her continued support.

Thirdly, office staff buy-in is also imperative for the program because their assistance will be necessary for each step of implementation. The office staff interact frequently with members of the Village. Since they even keep track of members who are at high risk for social isolation, they are familiar with some of the challenges with reaching these individuals and will have suggestions on how to best engage possible participants. Regularly, Village initiatives happen with the assumption of office support without first getting feedback, which has been a source of frustration in the past. As someone who has both volunteered and worked for the Village in the past, I have built considerable good will and credibility with the staff; therefore, asking for their feedback on the program will not only strengthen the program's likelihood of meeting member needs but will ensure they will take some ownership of the program's success.

Fourth, once buy-in and feedback are procured from the board, CEO, and staff, the research committee will be solicited to provide feedback on data collection and synthesis. They will also be asked to provide their input on the design and its usefulness to the Village. Every three years, the Village hires an external organization to conduct a survey of its operations and membership base. The various Village committees and staff use this data to guide the direction of services and new initiatives. The last survey was conducted in 2018 and over 60% of members participated. The research committee will

be asked for feedback on questions that they may like to have included in the semi-structured interviews that would be useful as the current survey is more quantitative. This will also allow the research group to feel included in the exploratory process.

Research Design Information

As a part of the confirmatory process, all stakeholders will be made aware of the research questions relevant to their interest area. However, when addressing research design, feedback will primarily come from the research committee and the staff who may be assisting with data collection. It will be explained that the program is a pre-experimental study with a single group. A mixed-methods approach to data collection will be used. In additional to semi-structured interviews to be completed by a Village social work intern prior to the start of the program, mid-way through the program, and after the program's conclusion, the UCLA Loneliness Scale, the Lubben Social Network Scale 6, and the PHQ-9 will be used to evaluate the participants prior to the start of the program, immediately after the program ends, and 12 months following the end of the program. They may have feedback, having conducted Village-wide surveys in the past, on the most effective ways to disseminate the data collection tools as well as how to present completed data to the rest of the village.

Formative Data and Qualitative Designs

Participant surveys will be completed both before the program starts and after the program concludes to assess satisfaction with program and confidence in addressing loneliness. The formative data of the research will include semi-structure interviews and focus groups. Semi-structured interviews with participants to assess their current feelings

about their social participation, what they feel is incomplete, and what they feel would help alleviate the discrepancy between their social participation and their desired social engagement. This will happen both prior to the program, mid-way through the program, and immediately following the conclusion of the program.

Focus groups will be conducted with Village board members to understand their interpretation on loneliness and how effective the program design will be in addressing the issue of loneliness. A focus group with Village staff will meet to understand the services already provided by the Village and the gap in effectively addressing loneliness. Feedback on the program design and its implementation should occur prior to the start of the program and halfway through the program. Excluded from this group will be the social work student who will be leading the post-intervention semi-structured interviews with participants so they are not entering the interviews with a preconceived notion on what participants might say. A chart detailing the timeline of variation data collection periods may be found in Appendix G.

Methods for Formative/Qualitative Data Management and Analysis

The semi-structured interviews and focus groups will be recorded, with participant permission. Otter.ai software will be used to complete transcriptions. It appears to be very accurate and creates a unique code for each person speaking, which can assist with confidentiality concerns. However, zoom transcription software can be used if the session occurs over zoom. To ensure accuracy of the recording, the transcript will be read through to make sure it makes sense, then four snippets of time will be selected for staff to listen to the recording while reading the transcript to make sure they

are consistent.

Two methods will be used to analyze the transcripts: a software program and a real person review. MAXQDA is a thematic analysis software developed for researchers. It allows for visualization of themes and ideas. In addition to software, at least 2 other people, most likely Village office staff or members of the research committee, will independently review the transcripts to identify themes and ideas. This can then be cross-checked between the software and live individual reviews to ensure all useful qualitative data is captured. Descriptive inductive codes based upon the transcripts will then be created. Because the focus groups will meet first, descriptive codes will most likely emerge during those sessions; however, additional categories may emerge later and can be added, if necessary, when evaluating the semi-structured interviews. Given the semi-structured nature of the interviews, additional codes can be used to capture as many themes as possible. After identifying the categories, staff members will be sought out to seek agreement on codes and themes before using a matrix to chart the data. The matrix will help identify patterns in the data, which will allow the development of themes, which will facilitate the identification of assertions. A social work student or staff member may develop his or her own matrix based upon agreed upon codes for triangulation of the data. This data will be useful in determining if the program is addressing loneliness and meeting the needs of participants. It may also help identify gaps in the program that need to be addressed moving forward.

Summative/Quantitative Data Collection Methods

Quantitative data will be completed by participants on their own at home or in the

setting where the program will occur, either immediately before the start of the program and/or immediately afterward. Quantitative data will only be collected from the program participants, no more than 12 people. All participants will be cognitively intact, community-dwelling older adults who are fluent in English. All quantitative data is self-administered surveys, so there is no concern over the impact of data collector bias or reliability from an assessor. The same protocol described in the Methods for Formative/Qualitative Data Management and Analysis above will be utilized.

Important independent variables identified in the research include co-habitation status, gender, voluntary or involuntary retirement and socio-economic status. The dependent variables being evaluated are loneliness, social participation, mental health status, physical health, and perceived health. There are many validated assessment tools that have been used to measure of the relevant dependent variables.

Loneliness will be measured using the Revised UCLA Loneliness Scale-6 (RULS-6). This is considered the gold standard in loneliness research and is comprised of 6 questions, down from 20 in the original UCLA Loneliness Scale. The correlation between the original UCLA Loneliness scale and the RULS-6 was r=.883, with r >.7 being acceptable. Overall, the RULS-6 has acceptable reliability and validity and is much shorter than the original assessment with acceptable internal consistency and validity (Wongpakaran et al., 2020). A copy of the RULS-6 can be found in Appendix D.

Social networks will be evaluated using the Lubben Social Network Scale (LSNS). It is a measure of social engagement with friends and family. The 6-item version (LSNS-6) has been validated and has an internal reliability of .83. This measure is also

correlated with mortality, hospitalizations, health behaviors, depression, and general physical health (Lubben et al., 2006). While there has been concern about the appropriateness of two items based on a Rasch model, it is still the most used assessment in community-dwelling older adults (Gray et al., 2016). A copy of the LSNS-6 can be found in Appendix E.

The Patient Health Questionnaire-9 (PHQ-9) will be used to assess for depression. It has been shown to be sensitive when compared to semi-structure and structured interviews for identifying depression and is particularly sensitive in older adult populations (2019). It was found to have a sensitivity of 88% and specificity of 88% for major depression (Kroenke, K. et al., 2001). A copy of the PHQ-9 can be found in the original article validating the measure (Kroenke, K., et al., 2001).

To assess for self-rated health, this author will use the first question in the Short Form Questionnaire (SFQ), "In general, would you say your health is 1) excellent 2) very good 3) good 4) fair 5) poor." It is unclear if perceived health will function as a moderator for depression, loneliness, or social networks so it is useful to evaluate the participant's general feelings about their health.

In total, participants will be asked to answer 22 questions, primarily using Likert scales prior to the start of the program, immediately after the program and 12 months after program completion. Each of the three standardized assessments is supposed to take no longer than 5 minutes so it can be expected that this will require less than 15 minutes to complete.

Methods for Summative/Quantitative Data Management and Analysis

Since the surveys will all be completed digitally, Qualtrics will be used to input the surveys and collect the results. If there is a participant who wishes to take the surveys using paper-and-pencil, the results will be manually entered into Qualtrics. Given that the sample size is very small, achieving statistical significance is unlikely, Excel's basic analysis functions will be sufficient to evaluate the data. More than likely, the descriptive information collected will not meet statistical significance or establish causality, but general trends in the data may provide a sense of the impact of the program on direction of less depression, loneliness, or social isolation. By using the gold-standards of assessments for the data collection, over time a large enough intervention group and comparison group may allow for the establishment of causality. The research committee will also be helpful in synthesizing this data or providing connections with strategic partners that may be able to assist with further evaluation.

Confidentiality

To ensure the privacy of program participants, all data will be kept in locked files on this author's computer. Participants will be assigned a unique code, consisting of three numbers, that will appear on the assessments they fill out and the semi-structured interview they complete with the social work student. The key to the codes will be kept in a separate excel spread sheet locked with a unique password. Any recordings that are made will use the record application on a password-protected cell phone. The audio file will be emailed and uploaded into a password protected file to be transcribed. The original file and email will then be deleted from the phone.

Limitations

One possible limitation of this program is that many members of The Village Chicago are familiar with research studies and may want the program to be successful, so they may overstate the program benefits. To help mitigate the risk, participants will be informed on the importance of honesty to best understand the impact of the program and reiterate that this is a pilot program so constructive feedback is important for improving the program. Another possible limitation of this program is the Village members that self-select for participation may not be the loneliest individuals within the community so even if the study does show change over time, it may not be statistically significant, especially given the small sample size. Despite significant progress being made on eliminating the taboos surrounding loneliness, this continued stigma may work as a deterrent for participation, or complete honesty.

Strengths

Strengths for this program include that The Village Chicago has an excellent infrastructure and strong community ties which increase the chances of success for both recruitment and program support. Additionally, there are many people interested in the success of the program, including many members of the board, staff, and CEO which will also facilitate program participation and compliance.

Conclusion

While the research is far from decisive on the most effective interventions to address loneliness in community-dwelling older adults, this paper provides a possible intervention that could help to address this problem. Through the use of theory and the

current research base, Not in it Alone offers a multi-faceted approach to addressing loneliness that can be executed in the community by trained occupational therapists.

CHAPTER SIX – Dissemination Plan

Summary

Not in it Alone is an eight-week program designed for older adults residing in the community to decrease their experience of loneliness through the use of self-reflection, cognitive behavioral strategies, and peer modeling. This program is designed for members of the Village Chicago, a community organization dedicated to ensuring older adults can continue to reside in their homes by providing volunteer services, social supports, and access to provider networks.

Dissemination goals

The long-term goal of Not in it Alone is to create an opportunity for occupational therapists to collaborate with Villages around the country. An even more encompassing goal is for insurance companies to recognize the value of organizations like The Village for improving health outcomes. This in turn, can lead to financial reimbursement for Village memberships, which would increase access to Village resources for more older adults around the country.

Short term program goals include that Not in it Alone will be implemented with 3 cohorts over the course of the 2022–2023 year. Participants in Not in It Alone will report lower levels of subjective loneliness six months after the program ends. One year after the program concludes, participants will also report an improvement in their general health and well-being based on the results of the PHQ-9.

Target Audience

The primary audience for this program is members of the Village Chicago,

specifically the members who are experiencing high levels of loneliness. A secondary audience is other Villages around the country whose members would benefit from this program. Another additional possible audience is other occupational therapists who may be interested in implementing this program within their own communities.

Key Messages

For the members of the Village Chicago, this program is an opportunity to decrease their experience of loneliness. Loneliness has large health implications and has been shown to correlate with heart problems, cognitive impairment and even mortality (Tilvis et al., 2004; Holt-Lunstad, 2015), Participation in this program decreases the risk of these negative health outcomes.

For other Villages around the country, of which there are over 100, implementing Not in it Alone can help to achieve the Village goal of helping members to achieve their personal and emotional health as well as their wellness goals. This is another value-added that any Village can provide to its members, and it may improve the longevity of members so they can continue to be thriving members of your community.

For other occupational therapists, we often only see individuals once they have sustained serious injuries or illnesses that may in part be caused by the very common experience of loneliness in older adults. By working to address loneliness in the community setting we are working of achieve our role in prevention. It also provides a possible entry into more community settings by showing the value of occupational therapy in the space of prevention.

Key Messengers and Dissemination

For the Village Chicago, Ruth Ann Watkins, past president of The Village Chicago, and a retired occupational therapist would be a powerful spokesperson for the program. For the larger, national Village audience, the Village-to-Village conference would be a great venue to share information on this program. A panel, including Niki Fox, who is a collaborator on this program, and the occupational therapist program creator, and perhaps Darcy Evon, the CEO of the Village Chicago, provides more credibility to the program. For occupational therapy audiences, the program creator would be an appropriate messenger for promoting Not in it Alone.

The Village Chicago already has mechanisms for delivering information to Village members. The member memo goes out virtually weekly to members informing them of events happening within the Village. Based on a 2019 survey of Village members, over 80% of members look at the weekly memo. The member memo sometimes includes personal stories so this tool may be used to tell more of a story to members which may elicit more interest. Additionally, members receive both a flyer and digital calendar monthly with Village events. Village office staff and Village board have also been recruited to identify possible participants.

For dissemination beyond the Village, the inter-Village conference would be an excellent opportunity to share information about the program. For occupational therapy audiences, the national occupational therapy conference and state conferences would be a good place to present on this program.

Budget

Figure 6.1

Breakdown of costs associated with program dissemination

Budget item	Cost
Primary Audience	
Village advertising via member memo and staff outreach	$0 (included in Health and Wellness Initiative Funding)
Village-to-Village Conference (virtual) registration	$100
Secondary Audiences	
OT conference	$450
Conference fee	$300
Travel/flight	$300
Hotel	$300 (shared room)
Printed poster	$100
Total	**$1550**

Evaluation

Dissemination will be measured on both a short-term and long-term basis. The most basic measure will be the number of Village members that complete the in-person program. During the initial intake participants will be asked how they found out about the program. This will provide insight into the most effective recruitment strategies, which will include the weekly member memo, direct approach from a board member or direct approach from a staff member. For dissemination evaluation, the short-term outcomes will be the number of individuals that request a copy of the Not in it Alone

manual. In the long-term, more macro-level, the people who request a copy will be followed up with 6–12 months after receiving the manual to see if they have implemented the program, and if not, what barriers they faced in program implementation.

Conclusion

Not in it Alone is a novel approach to addressing loneliness in older adults residing in the community. This program will be able to help more people with good advertising within the Village community and then in the larger community. There are a variety of outlets, including the member memo and program advocates that will assist in promoting this program on both a local level and then a national level.

CHAPTER SEVEN – Funding Plan

Summary

Not in It Alone is an eight-week program led by an occupational therapist for community-dwelling older adults with the goal of decreasing loneliness and improving self-efficacy. This program will be run through The Village Chicago, a community organization dedicated to helping older adults age in place. Participants will also be recruited through the Village Chicago.

Available local resources

This program will fall within the Health and Wellness Initiative (HWI) which is a committee within the Village Chicago. All members of the group are volunteers, except for Niki Fox who is member of the Village staff. Members of this group have already expressed a strong interest in the program and have historically donated time to other initiatives this author has already developed.

In addition to Village members and volunteers, the Village also has two to three social work students who are available to assist with any clerical work. These students may be helpful in making phone calls for recruitment and follow-up, and logistics. A Village intern will also be responsible for completing the semi-structured interviews that is a part of the formative data collection.

Experts include Niki Fox, Ruth Ann Watkins, and Jan Walters, who will be useful resources for program development and implementation. Niki Fox, the Director of Health, Wellness and Member Services, has worked for the Village for more than seven years and is an expert on Village members. Niki is also a social worker, so her scope of

practice is also inclusive of the topic of loneliness. Ruth Ann Watkins, a Village board member and past Village president, is an occupational therapist who is available to provide feedback. Additionally, Jan Walters is another social worker with a private practice who is a member of the Village who has offered to provide program input and has already made referrals for possible participants.

Needed resources: Budget

The HWI currently receives funding from a family foundation. It has received funding for the past three years. This funding covers a portion of Niki Fox's salary which allows her to dedicate time to this program. The Village office is stocked with office supplies and the marketing materials that are included with other Village promotional materials. The Village also has a staff member who has a background in marketing, Laurel Baer, who can help prepare materials to be functional and aesthetically pleasing. The Village also has a plethora of volunteers who can assist with material prep, outreach, and other administrative tasks. A more specific breakdown of budget items can be found in Table 6.1 and Table 6.2.

Potential funding sources

The Village's Health and Wellness Initiative has been funded for the past three years with a grant from a small family foundation. The first year, in 2018, they received $10,000 and as of 2020 funding increased to $25,000 (the foundation requested the increase) to use toward initiatives to improve the health and wellness of Village members and to address memory loss programing. This family foundation may be a source for continuous and additional funding for this program.

The Retirement Research Foundation has also recently begun providing funding for the Village in the amount of $20,000 for 2022 after two years of giving the Village $5,000. They provide grants to programs that promote aging-in-place and more engagement for individuals in community life. This author will also be supporting current grant recipients who are doing work on loneliness within the tech field, so that this relationship is being more firmly established.

Another possible funding source could be AARP, which has a grant program called the AARP Community Challenge, which funds programs that include community development. While the grant application cycle for 2022 has ended, they will most likely offer the same or a similar program next year. The average grant amount has been $11,500 with three-fourths of the grantees receiving under $15,000.

Finally, the Village has received additional grant money to hire a part-time grant writer. This individual will be tasked with applying for additional grant funds. This author can collaborate with this individual to identify additional funding sources for the Village and this program.

Conclusion

There are multiple grants that can help to fund this initiative. The Village Chicago's past track record at receiving and continuing grant funds makes the organization a strong candidate for future funding. The Village also has many built-in supports and a strong volunteer network that can support this program. There are many unexplored grant funding opportunities that can be identified as this program moves forward.

Table 6. 1

Year 1 budget

Budget item	Rational	Costs
Materials: Binders with loneliness resources from program	Participants will benefit from tangible tools, including cognitive behavior therapy homework/handouts to allow for reflection. (Will require some color copies.)	$100
Staffing: Volunteers for supporting program (free) Occupational therapist consultant	The Village has plenty of people-support in the form of volunteers, paid staff members, and social work students as well as an occupational therapist consultant with expertise in program and loneliness to lead program and support individual participants.	None Consultant fee of $150/hour for program administration, individual follow-up with participants and data collection. Estimated time required: 20 hours
Meeting location: Village office or hospital office space	Eight sessions will take place in person. Program will require central location that is accessible by public transportation. Both Village office space and hospital meetings rooms are available free-of-charge to program creator.	None
Total		$3,100

Table 6.2

Year 2 budget

Budget item	Rational	Costs
Materials: Binders with loneliness resources from program	Participants will benefit from tangible tools, including cognitive behavior therapy homework/handouts to allow for reflection and reinforcement. Binder will require some color copies.	$100
Staffing: Volunteers for supporting program (free) Occupational therapist consultant	The Village has plenty of people-support in the form of volunteers, paid staff members, and social work students. Occupational therapist consultant with expertise in program and loneliness to lead program and support individual participants	None Consultant fee of $150/hour for program administration, individual follow-up with participants and data collection. Estimated time required (18 hours)
Meeting location: Village office or hospital office space	Eight sessions will take place in person. Require central location that is accessible by public transportation. Both Village office space and hospital meetings rooms are available free-of-charge to program creator	None
Costs associated with program dissemination	Includes conferences, poster presentation, and associated travel (see breakdown in table 6.1)	1,550
Total		$4,350

CHAPTER EIGHT – Conclusion

Loneliness has been a long-standing problem plaguing communities around the globe. Until recently, the subject has been considered taboo; however, the pandemic has brought discussion of loneliness to the forefront with more individuals coming forward with their own experiences of loneliness. Research has shown that the implications for loneliness extend beyond emotional well-being and have implications for general health outcomes.

Despite increased attention to addressing both social isolation and loneliness, there is still a lack of strong evidence on appropriate interventions. While it appears group and multi-modal approaches will yield the most positive benefits, there have not been standardized programs developed or clear, specific interventions for clinicians to implement. Additionally, many researchers use the term social isolation and loneliness interchangeably and do not use assessments that specifically evaluate loneliness, further complicating clear guidance.

Based upon currently available evidence, a multi-disciplinary approach to tackling this complex issue would best meet the needs of individuals experiencing loneliness. No specific profession has taken ownership or has identified profession-specific interventions to address loneliness. Occupational therapy practitioners provide holistic approaches to treating individuals and are therefore positioned to provide interventions to address this complex issue. Occupational therapy practitioners have the skill set and holistic approach to tackle this issue. Despite the excellent fit, occupational therapy practitioners have not been empowered or provided with tools or education to address

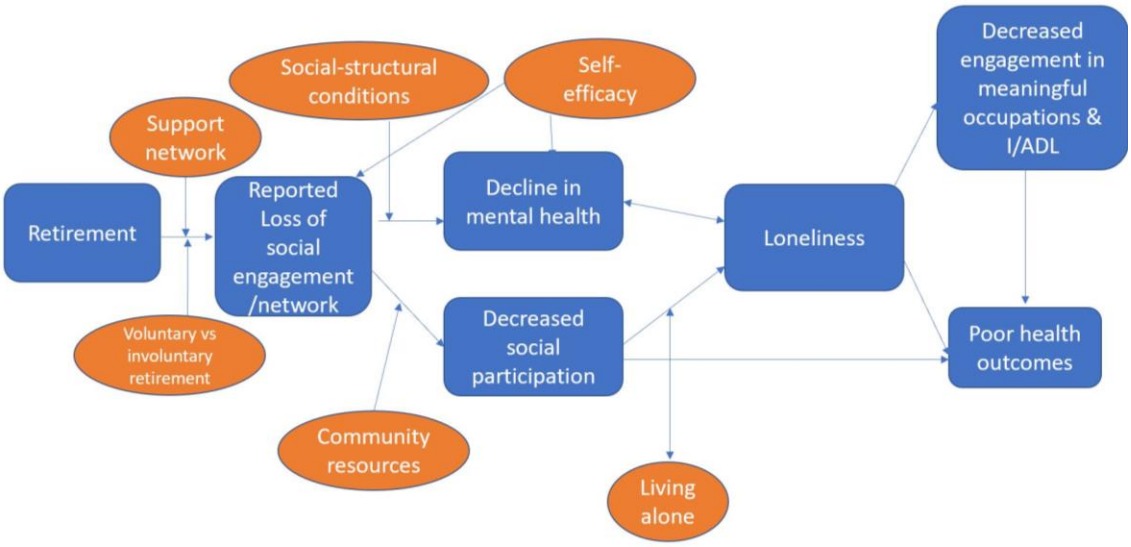
this problem.

Not in it Alone is a first step in identifying a possible role and intervention strategies for occupational therapy practitioners. Furthermore, it provides a possible role for occupational therapy practitioners in the area of community practice, which will be a necessary area of expansion as the need for preventative health care services continue to grow. Once it has been established that programs like Not in it Alone can decrease loneliness, it can be more widely disseminated for use across Villages, and other community organizations.

Beyond this specific program, occupational therapy practitioners should be encouraged to screen for loneliness and encourage their interdisciplinary teams to create interventions that address the unique needs of the populations they serve. Occupational therapy practitioners can serve a central role in these interventions as their services are holistic and consider both the individual and the community in which they live.

Appendix A

Explanatory visual model.



Appendix B

Not in It Alone Schedule

Week 1. Where are we going, where have we been?

Week 2. Scoring a goal (goal setting)

Week 3. Thinking up and out (introduction to CBT)

Week 4. Getting in and out of my head (reinforce CBT)

Week 5. Finding the friend zone

Week 6. My next best job (aptitude tests)

Week 7. Trying on a new role (career fair)

Week 8. Reflect, grow, repeat

Appendix C

Week 4: Thinking Up and Out

Program goal: By the end of the program participations will report feeling lower levels of loneliness based on the pre-test/post-test results of the UCLA loneliness scale					
Learner goal: By the end the program participants will demonstrate an understanding of the nature of loneliness as well implement strategies they can use to decrease their own experience of loneliness which will result in a change in their UCLA loneliness scale results.					
Specific learning objective	**Learning activities and supporting learning theories**	**Method of teaching**	**Time allotted (in minutes)**	**Resources**	**Method of evaluation**
After 30-minute discussion, the participants will be able to verbalize 3 ways loneliness may have a negative influence on life. Domain: cognitive	Brief lecture on possible negative implications of loneliness. Reading fiction to come up with new ideas (this allows participants to begin with intellectualizing loneliness but connecting it to emotions) Social cognitive theory (Bandura, 1986): the use of a model to demonstrate the concept of loneliness. Evolutionary theory of loneliness (Cacioppo et al., 2014): understand the impact of loneliness on other areas of life	Lecture, Independent reading (participants given option of story read aloud) then group discussion	30	Exert from a short story about loneliness MISS BRILL 1920 (skillshare.com) White board/markers	talk-back, participant verbalizes 3 ways loneliness may have negative impact of life
At the end of one facilitated group session on feelings, participants will be able to assert	Brief review of value of understanding emotions for improving emotional state. Compare/contrast Ms. Brill story to self-using language from	Brief lecture with case study (Ms. Brill) followed	20	Feelings wheel https://cdn.gottman.com/wp-content/uploads/2020/12/The-Gottman-Institute_The-Feeling-	Teach-back method

participants will be able to assert 3 feelings they associate with their experience of loneliness Domain: affective	Compare/contrast Ms. Brill story to self-using language from feelings wheel. Emotional intelligence theory (Mayer at al., 2004): value of understanding emotions to better understand self and relate to others Social cognitive theory: use of modeling from case study and peers to understand material	(Ms. Brill) followed by group discussion		Gottman-Institute_The-Feeling-Wheel_v2.pdf	
After completing the CBT learning tool, participants will be able to identify 2 cognitive behavioral strategies they can use to address feelings of loneliness Domain: cognitive	Introduction to CBT and orientation to PEM Social cognitive theory Cognitive behavioral theory	Brief lecture followed by group discussion	25	CBT Learning tool	Review of learning tool once participants complete it

Appendix D

6-item Revised UCLA loneliness Scale

(RULS-6)

Instructions:

The following statements describe how people sometimes feel. For each statement, please indicate how often you feel the way described by writing a number in the space provided. Here is an example:

How often do you feel happy?

If you never felt happy, you would respond "never"; if you always feel happy, you would respond "always".

NEVER	RARELY	SOMETIMES	ALWAYS
1	2	3	4

_____1. How often do you feel that you lack companionship?

_____2. How often do you feel alone?

_____3. How often do you feel that you are no longer close to anyone?

_____4. How often do you feel left out?

_____5. How often do you feel that no one really knows you well?

_____6. How often do you feel that people are around you but not with you?

Wongpakaran N, Wongpakaran T, Pinyopornpanish M, Simcharoen S, Suradom C, Varnado P, Kuntawong P. Development and validation of a 6-item Revised UCLA Loneliness Scale (RULS-6) using Rasch analysis. Br J Health Psychol. 2020 Jan 30. doi: 10.1111/bjhp.12404.

Appendix E

LUBBEN SOCIAL NETWORK SCALE – 6 (LSNS-6)

FAMILY: Considering the people to whom you are related by birth, marriage, adoption, etc…

1. How many relatives do you see or hear from at least once a month?

0 = none 1 = one 2 = two 3 = three or four 4 = five thru eight 5 = nine or more

2. How many relatives do you feel at ease with that you can talk about private matters?

0 = none 1 = one 2 = two 3 = three or four 4 = five thru eight 5 = nine or more

3. How many relatives do you feel close to such that you could call on them for help?

0 = none 1 = one 2 = two 3 = three or four 4 = five thru eight 5 = nine or more

FRIENDSHIPS: Considering all of your friends including those who live in your neighborhood

4. How many of your friends do you see or hear from at least once a month?

0 = none 1 = one 2 = two 3 = three or four 4 = five thru eight 5 = nine or more

5. How many friends do you feel at ease with that you can talk about private matters?

0 = none 1 = one 2 = two 3 = three or four 4 = five thru eight 5 = nine or more

6. How many friends do you feel close to such that you could call on them for help?

0 = none 1 = one 2 = two 3 = three or four 4 = five thru eight 5 = nine or more

Appendix F

Chart of Data Collection

>1 month prior to program start	Immediately prior to program start	Mid-way through program	Immediately post program	12 months after program end
Focus groups	Semi-structured interviews	Semi-structured interviews	Semi-structured interviews	RULS-6
	RULS-6		RULS-6	LSNS-6
	LSNS-6		LSNS-6	PHQ-9
	PHQ-9		PHQ-9	SFQ question
	SFQ question		SFQ question	

APPENDIX G – Executive Summary

Executive Summary of Not in it Alone: A Program to Decrease Loneliness in Older Adults

Introduction

There is an adage, “retirement kills.” This sentiment is based on truth. Following retirement, older adults transition away from their routines, social positions, and old social networks into an unfamiliar space with little support or guidance. As a result, older adults are regularly left to navigate this important transition alone. As a result of the loss of social networks, older adults may experience declines in their mental health (Beller & Wagner, 2020) and social participation (Turcotte et al., 2019). This decline in mental health and social participation has implications for the experience of loneliness (Kraav et al., 2021). Loneliness can result in a large range of negative health outcomes including depression (Luo et al., 2012) and even mortality (Holt-Lunstad, 2015).

Loneliness is a condition that is affecting a substantial number of older adults (Chawla et al., 2021). Research suggests that occupational therapy interventions may be effective for addressing social isolation in community-dwelling older adults, However, while social isolation increases the risk of developing loneliness, creating interventions to address social isolation does not directly address loneliness (Smallfield & Molitor, 2018). In fact, Taylor (2020) found social isolation only accounted for 9% of loneliness.

While prevention is identified as within occupational therapy’s scope of practice, occupational therapy practitioners often have limited access to settings in which prevention takes place. Research suggests that occupational therapy interventions in the

community setting can result in healthcare cost savings and a decreased need for medical interventions (Rula, 2011; AOTA, 2020a).

Project Overview

Not in it Alone has been developed in collaboration with The Village Chicago, a community organization dedicated to helping older adults remain vibrant parts of the community. The organization hosts hundreds of events each year, even during the pandemic using virtual platforms, and has developed a connector program to try to engage members at risk of social isolation. However, they have not developed programming specifically to address loneliness.

Based on existing research, the program is designed as a closed group with 8 sessions with each lasting an hour and a half. This novel and multifaceted program includes utilizing cognitive behavior therapy strategies, building of self-efficacy, and recognizing the value of new roles (Matuska, 2013; Heaven, 2013). During each session, participants will work through a participant manual that includes work both within the group and homework designed to apply the skills they are learning. In each session, there will be time to reflect on prior sessions, homework, and personal observations on individuals' progress. This form of mindfulness can also work to address self-efficacy and improve the skill of cognitive behavior therapy strategy use.

The program will be delivered primarily by an occupational therapist with intermittent inclusion of a Village staff member who is a trained social worker. Given the expansive resources of the Village and the importance of programs to interweave community resources, the social worker's support will reinforce this value. Additional

support will come from other staff members as well as social work interns.

Key Findings

Research suggests that more interventions addressing loneliness need to be theory-informed with more clearly laid out interventions and outcome measures (O'Rourke, et al., 2018). With this in mind, Not in it Alone, the community-based group intervention, is built on a foundation of the social cognitive theory (Bandura, 1986) and the evolutionary theory of loneliness (Cacioppo & Cacioppo, 2018). The social cognitive theory recognizes the dynamic interaction between individuals, their behavior and their environment; while the evolutionary theory of loneliness recognizes that loneliness has an impact on both the mental and physical health consequences. With these key concepts in mind, a group model was identified to promote the interaction between the person and their environment. Outcome measures include both mental and physical health assessments.

Loneliness is more prevalent in older adults following retirement because of the loss of social roles which can impact mental health and social participation (Kim et al., 2022). Unfortunately, loneliness is connected with poor health outcomes and decreased engagement in meaningful activities. Based on the underlying causes of loneliness, it is possible to derive an intervention to decrease the risks of loneliness and possibly improve health outcomes as well.

The evidence on interventions to address loneliness is far from decisive; however, programs that include multiple components, like cognitive behavioral therapy and community development approaches as well as programs that are connected to

community resources, have been identified as most likely to have a positive impact on loneliness (Smallfield & Molitor, 2018). Addressing mental health, social participation, and engagement accounts for many of the factors that can mitigate loneliness.

Based on the literature and program goals, outcomes are expected to include decreased loneliness, improved social network and a generally improved perception of health. These outcomes will be measured using the Revised UCLA Loneliness Scale, the Lubben Social Network Scale-6, the Patient Health Questionnaire-9 and a single question short-form questionnaire. These measures will be taken before the start of the program, immediately after the program and 1 year after the program concludes to see if any changes were sustainable.

Recommendations

The Village Chicago will begin implementation of Not in it Alone in the fall of 2022 with self-selected members of The Village Chicago. Board members and other key members of the community have been recruited to provide guidance on program development and to encourage member participation in the program. Given the role of physical isolation contributing to social isolation, Not in it Alone will initially be offered over zoom so that physical disability or the perceived risk of infection from in-person contact will not impact participation.

General Conclusions

Not in it Alone is an evidence-based program that has the potential to improve the lives of older adults within the community. With a strong emphasis on reinforcing community resources, developing cognitive skills, and improving self-efficacy, this

program will serve as a valuable addition to the Village Chicago's offerings. This group-based occupational therapy intervention in the community setting may also serve as a good jumping off point for greater involvement of occupational therapy practitioners in community-based settings.

APPENDIX H – Fact Sheet

BOSTON UNIVERSITY

Not in it Alone: A program to address loneliness in community-dwelling older adults

The Village Chicago

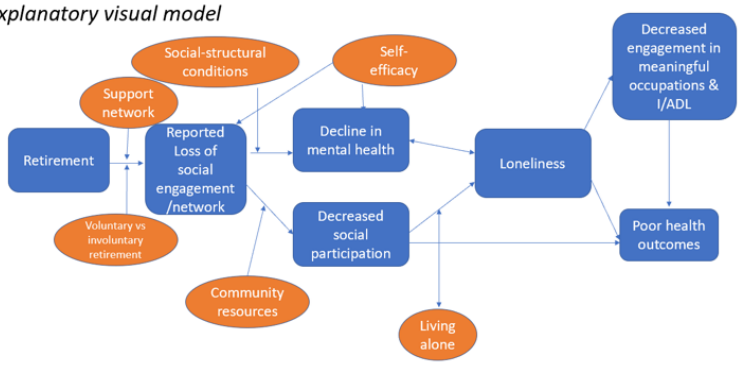
- A community organization with the mission to inspire connection, purpose, and well-being for older adults and their families through the power of community.
- There are over 100 Villages in the United States.
- The Village Chicago has over 450 members, around the Chicagoland area.
- The Village is funded through membership fees, fundraising, and project-specific grants.

The Problem

- Loneliness is a prevalent issue impacting upward of one third of older adults (Chawla et al., 2021).
- Retirement is a major life transition where older adults are prone to lose their social networks and important roles which increases risk of depression, social isolation and loneliness (Shin et al., 2019; Beller & Wagner, 2020).
- Loneliness has many possible negative health implications including depression, anxiety (Lee et al, 2019), risk of chronic health conditions (Collins et al., 2020) and mortality (Holt-Lunstad et al., 2015).
- Loneliness is a problem many retired older adults are facing, however there are no clear interventions that directly address loneliness.
- Research rarely distinguishes social isolation from loneliness in both interventions and outcome measures (Fakoya et al., 2020).

Figure 1

Explanatory visual model



Theoretical Models

- The social cognitive theory (Bandura, 1986) recognizes the dynamic interaction between the person, their behavior, and their environment.
- The evolutionary theory of loneliness (Cacioppo & Cacioppo, 2018) recognizes that loneliness has an impact on both the mental and physical components and has health consequences.
    - Postulates of theory suggest that loneliness has beneficial evolutionary purposes across species however long-term consequences are negative

The Intervention

Who: 6-12 self-identified retired Village members who are experiencing loneliness
How: Village staff and board members will recruit possible participants using personal connections
What: Eight, 1 ½ hour sessions led by an occupational therapist with intermittent inclusion of social work staff member
Where: Virtual or in office conference room depending on group preference

Not in it Alone Schedule

Week 1. Where are we going, where have we been?

Week 2. Scoring a goal (goal setting)

Week 3. Thinking up and out (introduction to Cognitive Behavioral Therapy (CBT)

Week 4. Getting in and out of my head (reinforce CBT)

Week 5. Finding the friend zone

Week 6. My next best job (aptitude tests)

Week 7. Trying on a new role (career fair)

Week 8. Reflect, grow, repeat

The Proposed Solution

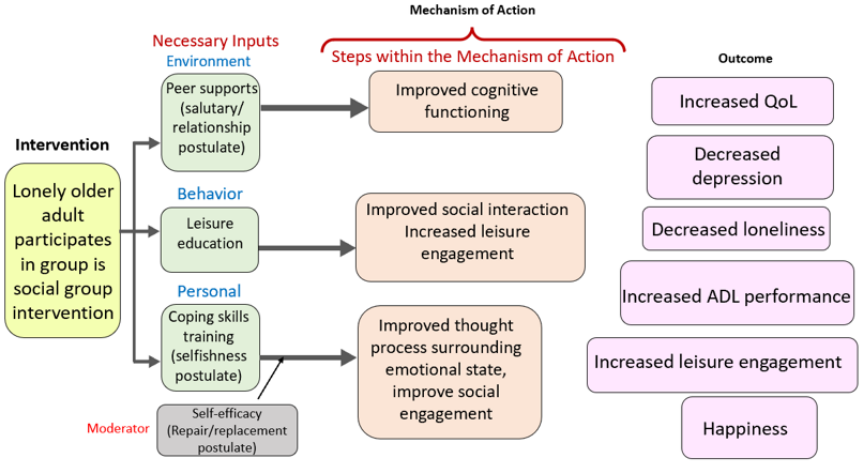
- A Village program designed to improve self-efficacy, decrease loneliness, and improve overall well-being
- A multi-modal approach that incorporates:
  - cognitive behavioral therapy strategies
  - mindfulness
  - role identification
  - connection to community resources

Implications for OT

- Occupational therapy practitioners can provide services in the community setting to address loneliness
- Occupational therapy practitioners should screen for loneliness and social isolation
- Occupational therapists should screen for social isolation and loneliness in patient populations as it has implications for patient's health and well-being

Figure 2

Social Cognitive Theory with Components of Evolutionary Theory of Loneliness



References

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

Beller, J. & Wagner, A. (2018). Disentangling loneliness: Differential effects of subjective loneliness, network quality, network size, and living alone on physical, mental, and cognitive health. *Journal of Aging and Health, 30*(4): 521-539

Chawla, K., Kunonga, T. P., Stow, D., Barker, R., Craig, D., & Hanratty, B. (2021). Prevalence of loneliness amongst older people in high-income countries: A systematic review and meta-analysis. *PloS one*, *16*(7), e0255088. **https://doi.org/10.1371/journal.pone.0255088**

Cacioppo, J. T., & Cacioppo, S. (2018). Chapter Three - Loneliness in the Modern Age: An Evolutionary Theory of Loneliness (ETL). *Advances in Experimental Social Psychology, 58*, 127-197. **https://doi.org/10.1016/bs.aesp.2018.03.003**

Collins, T., Davys, D., Martin, R., Russell, R., & Kenney, C. (2020). Occupational therapy, loneliness and social isolation: a thematic review of the literature. *International Journal of Therapy & Rehabilitation, 27*(10), 1–23.

Eakoya, O. A., McCorry, N. K., & Donnelly, M. (2020). Loneliness and social isolation interventions for older adults: a scoping review of reviews. *BMC Public Health*, *20*(1), 129. **https://doi.org/10.1186/s12889-020-8251-6**

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: a meta-analytic review. *Perspectives on psychological science: a journal of the Association for Psychological Science*, *10*(2), 227–237. **https://doi.org/10.1177/1745691614568352**

Lee, E. E., Depp, C., Palmer, B. W., Glorioso, D., Daly, R., Liu, J., Tu, X. M., Kim, H. C., Tarr, P., Yamada, Y., & Jeste, D. V. (2019). High prevalence and adverse health effects of loneliness in community-dwelling adults across the lifespan: role of wisdom as a protective factor. *International Psychogeriatrics*, *31*(10), 1447–1462. **https://doi.org/10.1017/S1041610218002120**

Shin, O., Park, S., Amano, T., Kwon, E., & Kim, B. (2020). Nature of retirement and loneliness: The moderating roles of social support. *Journal of Applied Gerontology: The Official Journal of the Southern Gerontological Society*, *39*(12), 1292–1302. **https://doi.org/10.1177/0733464819886262**

REFERENCES

Accuracy of Patient Health Questionnaire-9 (PHQ-9) for screening to detect major depression: individual participant data meta-analysis. (2019). *BMJ: British Medical Journal*, *365*, l1781. https://doi.org/10.1136/bmj.l1781

Abrams, L. R., Finlay, J. M., & Kobayashi, L. C. (2021). Job transitions and mental health outcomes among US adults aged 55 and older during the COVID-19 pandemic. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, gbab060. Advance online publication. https://doi.org/10.1093/geronb/gbab060

American Occupational Therapy Association (2020a). Occupational Therapy in the promotion of health and well-being. *American Journal of Occupational Therapy*, *74*(3): 7403420010. https://doi.org/10.5014/ajot.2020.743003

American Occupational Therapy Association. (2020b). Occupational therapy practice framework: Domain and process (4th ed.). *American Journal of Occupational Therapy, 74*(Suppl. 2), 7412410010. https://dio.org/10.5014/ajot.2020.74S2001

American Perceptions of Aging in the 21st Century. (2002). Retrieved February 9, 2021, from https://www.brown.edu/Courses/BI_278/projects/Aging/perceptions.pdf

Bai, Z., Wang, Z., Shao, T., Qin, X., & Hu, Z. (2021). Association between social capital and loneliness among older adults: a cross-sectional study in Anhui Province, China. *BMC Geriatrics*, *21*(1), 26. https://doi.org/10.1186/s12877-020-01973-2

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

Barnes, T. L., MacLeod, S., Tkatch, R., Ahuja, M., Albright, L., Schaeffer, J. A., & Yeh, C. S. (2022). Cumulative effect of loneliness and social isolation on health outcomes among older adults. *Aging & Mental Health*, 26(7), 1327–1334. https://doi.org/10.1080/13607863.2021.1940096

Beller, J. & Wagner, A. (2018). Disentangling loneliness: Differential effects of subjective loneliness, network quality, network size, and living alone on physical, mental, and cognitive health. *Journal of Aging and Health, 30*(4), 521–539

Beutel, M. E., Klein, E. M., Brähler, E., Reiner, I., Jünger, C., Michal, M., Tibubos, A. N. (2017). Loneliness in the general population: Prevalence, determinants and relations to mental health. BMC Psychiatry, 17(97). DOI 10.1186/s12888-017-1262-x

Bjelajac, A. K., Bobić, J., Kovačić, J., Varnai, V. M., Macan, J., & Smolić, Š. (2019). Employment status and other predictors of mental health and cognitive functions in older Croatian workers. *Arhiv za higijenu rada i toksikologiju, 70*(2), 109–117. https://doi.org/10.2478/aiht-2019-70-3254

Bondevik, M.M., Bondevik, A., & Skogstad. (1998). The oldest old, ADL, social network, and loneliness. *Western Journal of Nursing Research*, *20*(3), 325–343. https://doi.org/10.1177/019394599802000305

Buchman, A. S., Boyle, P. A., Wilson, R. S., James, B. D., Leurgans, S. E., Arnold, S. E., & Bennett, D. A. (2010). Loneliness and the rate of motor decline in old age: the Rush Memory and Aging Project, a community-based cohort study. *BMC Geriatrics*, *10*, 77. https://doi.org/10.1186/1471-2318-10-77

Cacioppo, J. T., & Cacioppo, S. (2018). Chapter Three - Loneliness in the Modern Age: An Evolutionary Theory of Loneliness (ETL). *Advances in Experimental Social Psychology, 58*, 127–197. https://doi.org/10.1016/bs.aesp.2018.03.003

Cacioppo, et al. (2014). Evolutionary Mechanisms for loneliness. *Cognition & Emotion, 28*, 3–21. doi:10.1080/02699931.2013.837379.

Cattan, M., White, M., Bond, J., Learmouth, A. (2005). Preventing social isolation and loneliness among older people: a systemic review of health promotion interventions. *Aging & Society, 25*, 41–67. 10.1017/S0144686X04002594

Chawla, K., Kunonga, T. P., Stow, D., Barker, R., Craig, D., & Hanratty, B. (2021). Prevalence of loneliness amongst older people in high-income countries: A systematic review and meta-analysis. *PLoS One, 16*(7), e0255088. https://doi.org/10.1371/journal.pone.0255088

Coberley, Carter. (2011). Effectiveness of health and wellness initiatives for seniors. *Population Health Management., 14*, S.

Cohen-Mansfield, J., & Perach, R. (2015). Interventions for alleviating loneliness among older persons: a critical review. *American Journal of Health Promotion: AJHP*, *29*(3), e109–e125. https://doi.org/10.4278/ajhp.130418-LIT-182

Cohen-Mansfield, J., Hazan, H., Lerman, Y., Shalom, V., Birkenfeld, S. & Cohen, R. (2018). Efficacy of the I-SOCIAL intervention for loneliness in older age: Lessons from a randomized controlled trial. *Journal of Psychiatric Research; 99*, 69–75.

Cohen-Mansfield, J., Hazan, H., Lerman, Y., Shalom, V. (2016). Correlates and predictors of loneliness in older adults: a review of qualitative results informed by qualitative insights. *International Psychogeriatrics, 28*(4), 557–576.

Collins, T., Davys, D., Martin, R., Russell, R., & Kenney, C. (2020). Occupational therapy, loneliness and social isolation: a thematic review of the literature. *International Journal of Therapy & Rehabilitation, 27*(10), 1–23. https://doi.org/10.12968/ijtr.2019.0044

Courtin, E. & Knapp, M. (2017). Social isolation, loneliness and health in old age: A scoping review. *Health and Social Care in the Community*, *25*(3), 799–812. doi: 10.1111/hsc.12311.

Cruwys, T., Haslam, C., Steffens, N. K., Haslam, S. A., Fong, P., & Lam, B. (2019). Friendships that money can buy: Financial security protects health in retirement by enabling social connectedness. *BMC Geriatrics*, *19*(1), 319. https://doi.org/10.1186/s12877-019-1281-1

Dayson, C., Harris, C., & Woodward, A. (2021). Voluntary sector interventions to address loneliness and mental health in older people: taking account of emotional, psychological and social wellbeing. *Perspectives in Public Health*, *141*(4), 237–243. https://doi.org/10.1177/17579139211017580

Dickens, A. P., Richards, S. H., Greaves, C. J., & Campbell, J. L. (2011). Interventions targeting social isolation in older people: a systematic review. *BMC Public Health*, *11*, 647. https://doi.org/10.1186/1471-2458-11-647

Fakoya, O. A., McCorry, N. K., & Donnelly, M. (2020). Loneliness and social isolation interventions for older adults: a scoping review of reviews. *BMC Public Health, 20*(1), 129. https://doi.org/10.1186/s12889-020-8251-6

Franck, L., Molyneux N, Parkinson L. (2016). Systematic review of interventions addressing social isolation and depression in aged care clients. *Quality of Life Research, 25*(6), 1395–1407. http://link.springer.com/10.1007/s11136-015-1197-y.

Freeman, A. T., Santini, Z. I., Tyrovolas, S., Rummel-Kluge, C., Haro, J. M., & Koyanagi, A. (2016). Negative perceptions of ageing predict the onset and persistence of depression and anxiety: Findings from a prospective analysis of the Irish Longitudinal Study on Ageing (TILDA). *Journal of Affective Disorders, 199*, 132–138. https://doi.org/10.1016/j.jad.2016.03.042

Freedman, M. (2019). How to live forever: The enduring power of connecting the generations. Ingram Publisher Services, U.S.

Gallo, W. T., Bradley, E. H., Siegel, M., & Kasl, S. V. (2000). Health effects of involuntary job loss among older workers: findings from the health and retirement survey. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences, 55*(3), S131–S140.

Gardiner, C., Geldenhuys, G., & Gott, M. (2018). Interventions to reduce social isolation and loneliness among older people: an integrative review. *Health & Social Care in the Community*, *26*(2), 147–157. https://doi.org/10.1111/hsc.12367

Gray, J., Kim, J., Ciesla, J. R., & Yao, P. (2016). Rasch Analysis of the Lubben Social Network Scale–6 (LSNS-6). *Journal of Applied Gerontology, 35*(5), 508–528. https://doi.org/10.1177/0733464814560468

Gerst-Emerson K, Jayawardhana J. (2015). Loneliness as a Public Health Issue: The Impact of Loneliness on Health Care Utilization Among Older Adults. *American Journal Public Health, 105*(5), 1013–1019. https://doi.org/10.2105%2FAJPH.2014.302427

Hacihasanoğlu, R., Yildirim, A., & Karakurt, P. (2012). Loneliness in elderly individuals, level of dependence in activities of daily living (ADL) and influential factors. *Archives of Gerontology and Geriatrics, 54*(1), 61–66. https://doi.org/10.1016/j.archger.2011.03.011

Hajek, A., Brettschneider, C., Mallon, T., Leeden, C.V., Mamone, S., Wiese, B., Weyerer, S., Fuchs, A., Pentzek, M., Riedel-Heller, S.G., Stein, J., Bickel, J., Weeg, D., Heser, K., Wagner, M., Maier, W., Scherer, M.,, Luck, T. & Konig, H. (2017). How does social support affect functional impairment in late life? Findings of a multicenter prospective cohort study in Germany. *Age and Aging*, *46*(5), 813–820. doi: 10.1093/ageing/afx012

Hajek, A., & König, H. H. (2020). Which factors contribute to loneliness among older Europeans? Findings from the Survey of health, ageing and retirement in Europe: determinants of loneliness. *Archives of Gerontology and Geriatrics*, *89*, 104080. https://doi.org/10.1016/j.archger.2020.104080

Hajek, A., & König, H.-H. (2017). The association of falls with loneliness and social exclusion: evidence from the DEAS German Ageing Survey. *BMC Geriatrics*, *17*(1), 204. https://doi.org/10.1186/s12877-017-0602-5

Heaven, B., Brown, L. J. E., White, M., Errington, L., Mathers, J. C., & Moffatt, S. (2013). Supporting well-being in retirement through meaningful social roles: systematic review of intervention studies. *The Milbank Quarterly, 91*(2), 222–287. http://www.jstor.org/stable/23608791

Holahan, C. K., & Holahan, C. J. (1987). Self-efficacy, social support, and depression in aging: a longitudinal analysis. *Journal of Gerontology*, *42*(1), 65–68 https://doi.org/10.1093/geronj/42.1.65

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: a meta-analytic review. *Perspectives on Psychological Science*, *10*(2), 227–237. https://doi.org/10.1177/1745691614568352

Hoogendijk, E. O. (2020). Frailty Combined with Loneliness or Social Isolation: An Elevated Risk for Mortality in Later Life. *Journal of the American Geriatrics Society, 68*(11), 2587. DOI: 10.1111/jgs.16716

Kall, A., Jagholm, S., Hesser, H., Andersson, F., Mathaldi, A., Norkvist, B.T., Shafran, R., Andersson, Gerhard. (2020). Internet-based cognitive behavior therapy for loneliness: A pilot randomized controlled trial. *Behavior Therapy, 51*, 54–68. https://doi.org/10.1016/j.beth.2019.05.001

Kim, H., Kwak, S., Youm, Y., & Chey, J. (2022). Social Network Characteristics Predict Loneliness in Older Adults. *Gerontology*, *68*, 309–320. https://doi.org/10.1159/000516226

Kraav, S. L., Lehto, S. M., Junttila, N., Ruusunen, A., Kauhanen, J., Hantunen, S., & Tolmunen, T. (2021). Depression and loneliness may have a direct connection without mediating factors. *Nordic Journal of Psychiatry*, 1–5. Advance online publication. https://doi.org/10.1080/08039488.2021.1894231

Kroenke, K., Spitzer, R., Williams, J.B. (2001). The PHQ-9: validity of a brief depression severity measure. *Journal of General Internal Medicine, 16*(9), 606–613. https://doi.org/10.1046/j.1525-1497.2001.016009606.x

Kurani, N., McDermott, D., & Shanosky, N. (2020, August 20). How does the quality of the U.S. healthcare system compare to other countries? Retrieved February 08, 2021, from https://www.healthsystemtracker.org/chart-collection/quality-u-s-healthcare-system-compare-countries/#item-age-adjusted-mortality-rate-of-neoplasms-per-100000-population-1980-2017

Lee, E. E., Depp, C., Palmer, B. W., Glorioso, D., Daly, R., Liu, J., Tu, X. M., Kim, H. C., Tarr, P., Yamada, Y., & Jeste, D. V. (2019). High prevalence and adverse health effects of loneliness in community-dwelling adults across the lifespan: role of wisdom as a protective factor. *International Psychogeriatrics*, *31*(10), 1447–1462. https://doi.org/10.1017/S1041610218002120

Leigh-Hunt, N., Bagguley, D., Bash, K., Turner, V., Turnbull, S., Valtorta, N., & Caan, W. (2017). An overview of systematic reviews on the public health consequences

of social isolation and loneliness. *Public Health, 152*, 157–171. https://doi.org/10.1016/j.puhe.2017.07.035

Levine, S., Malone, E., Lekiachvili, A., Briss, P. (2019). Health Care Industry Insights: Why the Use of Preventive Services Is Still Low. *Preventing Chronic Disease, 16,* 180625. http://dx.doi.org/10.5888/pcd16.180625

Löckenhoff, C. E., De Fruyt, F., Terracciano, A., McCrae, R. R., De Bolle, M., Costa, P. T., Jr, Aguilar-Vafaie, M. E., Ahn, C. K., Ahn, H. N., Alcalay, L., Allik, J., Avdeyeva, T. V., Barbaranelli, C., Benet-Martinez, V., Blatný, M., Bratko, D., Cain, T. R., Crawford, J. T., Lima, M. P., Ficková, E., … Yik, M. (2009). Perceptions of aging across 26 cultures and their culture-level associates. *Psychology and Aging*, *24*(4), 941–954.

Lubben, J., Blozik, E., Gillmann, G., IIiffe, S., von Renteln Kruse, W., Beck, J. C., & Stuck, A. E. (2006). Performance of an abbreviated version of the Lubben Social Network Scale among three European Community–dwelling older adult populations. *Gerontologist*, *46*(4), 503–513. https://doi.org/10.1093/geront/46.4.503

Luo, Y., Hawkley, L. C., Waite, L. J., & Cacioppo, J. T. (2012). Loneliness, health, and mortality in old age: a national longitudinal study. *Social Science & Medicine, 74*(6), 907–914. https://doi.org/10.1016/j.socscimed.2011.11.028

Maher, C. A., Burton, N. W., van Uffelen, J. G., Brown, W. J., Sprod, J. A., & Olds, T. S. (2013). Changes in use of time, activity patterns, and health and wellbeing across

retirement: design and methods of the life after work study. *BMC Public Health*, *13*, 952. https://doi.org/10.1186/1471-2458-13-952

Matuska, K., Giles-Heinz, A., Flinn, N., Neighbor, M., Bass-Haugen. J. (2003). Outcomes of a pilot occupational therapy wellness program for older adults. *American Journal of Occupational Therapy*, *57*(2), 220–224. https://doi.org/10.5014/ajot.57.2.220

Mehrabi, F.; Béland, F. (2021). Frailty as a moderator of the relationship between social isolation and health outcomes in community-dwelling older adults. *International Journal of Environmental Research and Public Health, 18*, 1675. https://doi.org/10.3390/

Menec, V. (2003). The relation between everyday activities and successful aging: A 6-Year longitudinal study. *Journals of Gerontology; 58B*(2). S74–S82

Morris Z. A. (2020). Loneliness as a Predictor of Work Disability Onset Among Nondisabled, Working Older Adults in 14 Countries. *Journal of Aging and Health*, *32*(7–8), 554–563. https://doi.org/10.1177/0898264319836549

O'Rourke, H. M., Collins, L., & Sidani, S. (2018). Interventions to address social connectedness and loneliness for older adults: a scoping review. *BMC Geriatrics*, *18*(1), 214. https://doi.org/10.1186/s12877-018-0897-x

Pizzi, M.A. & Richards, L.G. (2017). Promoting health, well-being, and quality of life in occupational therapy: A commitment to a paradigm shift for the next 100 years. *American Journal of Occupational Therapy, 71*(4): 7104170010. https://doi.org/10.5014/ajot.2017.028456

Portacolone, E., Perissinotto, C., Yeh, J.C., Greysen, S.R. (2018). “I feel trapped”: The tension between personal and structural factors of social isolation and the desire for social integration among older residents of a high-crime neighborhood, *The Gerontologist, 58*(1), 79–88. https://doi.org/10.1093/geront/gnw268

Poscia, A., Stojanovic, J., La Milia, DI., Duplaga, M., Grysztar, M., Moscato, U., et al. (2018). Interventions targeting loneliness and social isolation among the older people: An update systematic review. *Experimental Gerontology, 102,* 133–44. https://www.sciencedirect.com/science/article/pii/S053155651730520X.

QuickStats: Percentage of Adults with Activity Limitations, by Age Group and Type of Limitation — National Health Interview Survey, United States, 2014. (2016). *MMWR Morbidity and Mortality Weekly Report, 65*(1), 14. http://dx.doi.org/10.15585/mmwr.mm6501a6external icon.

Roberts, J. R., & Windle, G. (2020). Evaluation of an intervention targeting loneliness and isolation for older people in North Wales. *Perspectives in Public Health, 140*(3), 153–161. https://doi.org/10.1177/1757913919868752

Rula, E. Y. (2011). Potential Medicare savings through prevention and risk reduction. *Population Health Management, 14,* S.

Sabir, M., Wethington, E., Breckman, R., Meador, R., Reid, M. C., & Pillemer, K. (2009). A community-based participatory critique of social isolation intervention research for community-dwelling older adults. *Journal of Applied Gerontology, 28*(2), 218–234. https://doi.org/10.1177/0733464808326004

Saito, T., Kai, I., & Takizawa, A. (2012). Effects of a program to prevent social isolation on loneliness, depressions and subjective well-being of older adults: A randomized trial among older migrants in Japan. *Archives of Gerontology and Geriatrics, 55,* 539–547

Shankar, A., McMunn, A., Demakakos, P., Hamer, M., & Steptoe, A. (2017). Social isolation and loneliness: Prospective associations with functional status in older adults. *Health Psychology, 36*(2), 179–187. https://doi.org/10.1037/hea0000437

Shamlou, R., Nikpeyma, N., Pashaeipour, S., Sahebi, L., & Mehrgou, Z. (2021). Relationship of loneliness and social isolation with self-care ability among older Adults. Journal of Psychosocial Nursing & Mental Health Services, 59(1), 15–20. https://doi.org/10.3928/02793695-20201210-04

Shin, O., Park, S., Amano, T., Kwon, E., & Kim, B. (2020). Nature of retirement and loneliness: The moderating roles of social support. Journal of Applied Gerontology, 39(12), 1292–1302. https://doi.org/10.1177/0733464819886262

Smallfield, S., Molitor, W.L. (2018). Occupational therapy interventions supporting social participation and leisure engagement for community-dwelling older adults: A systematic review. *American Journal of Occupational Therapy, 72*(4): 7204190020. https://doi.org/10.5014/ajot.2018.030627

Smallfield, S. & Molitor, W.L. (2019). Productive aging for community dwelling older adults. Retrieved from https://www.aota.org/practice/productive-aging/evidence-based/cat-pa-social.aspx

Smith, R., Wuthrich, V., Johnco, C., & Belcher, J. (2021). Effect of Group Cognitive Behavioural Therapy on Loneliness in a Community Sample of Older Adults: A Secondary Analysis of a Randomized Controlled Trial. *Clinical Gerontologist*, 44(4), 439–449. https://doi.org/10.1080/07317115.2020.1836105

Smith, K.J. & Victor, C. (2019). Typologies of loneliness, living alone and social isolation, and their associations with physical and mental health. *Aging & Society, 39*, 1709–1730.

Solomonov, N., Bress, J.N., Sirey, J.A., Gunning, F.M., Raue, P.J., Arean, P.A. & Alexopoulous, G.S. (2019). Engagement in socially and interpersonally rewarding activities as a predictor of outcome in "engage" behavioral activation therapy for late-Life depression The American Journal of Geriatric Psychiatry, 27(3), S122–S123. https://doi.org/10.1016/j.jagp.2019.01.028

Stancliffe, R. J., Bigby, C., Balandin, S., Wilson, N. J., & Craig, D. (2015). Transition to retirement and participation in mainstream community groups using active mentoring: a feasibility and outcomes evaluation with a matched comparison group. *Journal of Intellectual Disability Research:* JIDR, 59(8), 703–718. https://doi.org/10.1111/jir.12174

Taylor, H. O. (2020). Social Isolation's Influence on Loneliness among Older Adults. *Clinical Social Work Journal*, *48*(1), 140–151. https://doi.org/10.1007/s10615-019-00737-9

Taylor, P., Morin, R., Parke, K., Cohn, D., & Wang, W. (2009, June 29). Growing Old in America: Expectations vs. Reality. Retrieved February 9, 2021, from

https://www.pewresearch.org/wp-content/uploads/sites/3/2010/10/Getting-Old-in-America.pdf

Taylor, H. O., Wang, Y., & Morrow-Howell, N. (2018). Loneliness in senior housing communities. *Journal of Gerontological Social Work, 61*(6), 623–639. https://doi.org/10.1080/01634372.2018.1478352

Tilvis, R.S., Kahonen-Vare, M.H., Jolkkonen, J., Valvanne, J., Pitkala, K.H., Strandberg, T.E. (2004). Predictors of cognitive decline and mortality of aged people over a 10-Year period. *The Journals of Gerontology Series A, Biological Sciences and Medical Sciences*, *59*(3), M268–274.

Turcotte, P. L., Carrier, A., & Levasseur, M. (2019). Community-based participatory research remodelling occupational therapy to foster older adults' social participation. *Canadian Journal of Occupational Therapy. Revue canadienne d'ergotherapie*, *86*(4), 262–276. https://doi.org/10.1177/0008417419832338

Turcotte, P.-L., Carrier, A., Roy, V., & Levasseur, M. (2018). Occupational therapists' contributions to fostering older adults' social participation: A scoping review. *The British Journal of Occupational Therapy*, *81*(8), 427–449. https://doi.org/10.1177%2F0308022617752067

Valtorta, N.K., Kanaan, M., Gilbody, S., Ronzi, S., Hanratty, B. (2016). Loneliness and social isolation as risk factors for coronary heart disease and stroke: systematic review and meta-analysis of longitudinal observational studies. *Heart, 102*(13), 1009–1016.

Veronese, N., Galvano, D., D'Antiga, F., Vecchiato, C., Furegon, E., Allocco, R., Smith, L., Gelmini, G., Gareri, P., Solmi, M., Yang, L., Trabucchi, M., De Leo, D., & Demurtas, J. (2021). Interventions for reducing loneliness: An umbrella review of intervention studies. *Health & Social Care in the Community, 29*(5), e89–e96. https://doi.org/10.1111/hsc.13248

Wan-Yim, I., Tang, C.S. & Goggins, W.B. (2009). An educational intervention to improve women's ability to cope with childbirth. *Journal of Clinical Nursing, 18*, 2125–2135. doi: 10.1111/j.1365-2702.2008.02720.x

Wongpakaran, N., Wongpakaran, T., Pinyopornpanish, M., Simcharoen, S., Suradom, C., Varnado, P., & Kuntawong, P. (2020). Development and validation of a 6-item Revised UCLA Loneliness Scale (RULS-6) using Rasch analysis. *British Journal of Health Psychology, 25*(2), 233–256. https://doi.org/10.1111/bjhp.12404

Yu, B., Steptoe, A., Niu, K., & Jia, X. (2020). Social Isolation and Loneliness as Risk Factors for Grip Strength Decline Among Older Women and Men in China. *Journal of the American Medical Directors Association, 21*(12), 1926–1930. https://doi.org/10.1016/j.jamda.2020.06.029

Yu, B., Steptoe, A., Chen, Y., & Jia, X. (2020). Social isolation, rather than loneliness, is associated with cognitive decline in older adults: the China Health and Retirement Longitudinal Study. *Psychological Medicine*, 1–8. Advance online publication. https://doi.org/10.1017/S0033291720001014

CURRICULUM VITAE