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Older Women At Risk for Social Isolation: Intersections of Mobility & Social Well-Being

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Older Women At Risk for Social Isolation:

Intersections of Mobility & Social Well-Being

A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Philosophy

in Social Welfare

by

Lia Watai Marshall

2020

ABSTRACT OF THE DISSERTATION

Older Women At Risk for Social Isolation:

Intersections of Mobility & Social Well-Being

by

Lia Watai Marshall

Doctor of Philosophy in Social Welfare

University of California Los Angeles, 2020

Professor Lené Levy-Storms, Co-Chair

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Despite various disciplines having studied older women's social well-being, mobility, and the built environment, researchers continue to address these concepts separately. Further, given the nature of social isolation, little knowledge exists regarding the experiences of older women, and their perceptions of social isolation, particularly concerning constrained mobility. This dissertation followed a multi-manuscript format to address three areas of inquiry. Manuscript I was a systematic literature review to assess the current state of knowledge regarding social well-being, social isolation, and mobility among community-dwelling older women. Manuscript II was a qualitative study of older women who are isolated or are at risk for isolation which sought to gain an understanding of older women's social well-being to elicit the meanings of their social isolation. Manuscript III was a qualitative study of older women who are

socially-isolated or at risk, conducted to understand their social well-being and mobility to elicit the meanings of, obstacles to, and opportunities for social contact.

Results from Manuscript I identified gaps in the literature include a lack of research specifically on older women's social well-being as affected by their level of mobility, and lack of indication if samples resided in rural, suburban, and urban areas. Manuscript II results underscored the importance of the single social contact whether it be a family member, social service provider or neighbor. Lastly, Manuscript III found the neighborhood social and built environment to interact with older women's ability to be social.

Practice implications include a focus on supporting older women at critical points along their life course, enhancing social capital, civic engagement, and physical exercise, and leveraging existing neighborhood relationships. Policy implications highlighted the need for neighborhood walkability and public transportation accessibility. Recommendations to California's Master Plan on Aging (MPA) were made including creating public-private partnerships to provide subsidized, door-to-door transportation, to the city and state to support the Village to Village movement. Finally, funds through the renewed Older Americans Act (OAA) should be used to support current and novel interventions to address social isolation. Future research should address perceptions of safety in the environment - both of the built environment itself and from other people, particularly for older adult women. Lastly, research should look to identify and understand the capacity for improving social connectivity at non-traditional locations, and the potential impact of varying relationships between individuals providing home-delivery meals and meal recipient social isolation.

The dissertation of Lia Watai Marshall is approved.

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DEDICATION PAGE

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I dedicate this work to the women who participated in this research, and to the older adults and families of Los Angeles.

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LIST OF ACRONYMS

AAA - Area Agencies on Aging

DCS - The Daily Call Sheet

MOW – Meals-on-Wheels

MPA - California's Master Plan on Aging

OAA - Older American's Act

PALA - Purposeful Aging Los Angeles

WHO - World Health Organization

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Introduction

This section will begin by presenting the research problem, the significance of the social problem, and the gap in the research. The rationale for and description of the multi-manuscript dissertation format is then presented and concludes with the research questions.

Research Problem

Globally, the population is aging, and the proportion of older people is rising (United Nations [UN], Department of Economic and Social Affairs, 2017). A characteristic of this population is the "feminisation of ageing" (World Health Organization [WHO], 2002). The ratio of women to men increases with age; with women accounting for 61% of those aged 80 years and above worldwide (UN, Department of Economic and Social Affairs, 2017). Further, significant differences exist for women in older age. For example, compared to men, older women more likely to live alone. The Institute on Aging reported that 72 percent of older men lived with a spouse, compared to 42 percent of older women. Further, the likelihood of living alone increases with age. Among women age 75+, almost half (47 percent) lived alone in 2010 (The Institute on Aging, 2010). This trend is not unique to the United States; in most Western European countries, women over age 65 are more than twice as likely to live alone as comparable men (Brög, Erl, & Glorius, 2000). Further, 16 percent of women age 65 and older in the United States live at or below the poverty line compared to 12 percent of comparable men. Older women of color experience poverty at significantly higher rates than their white counterparts. The US Census Supplemental Poverty Measure reports that Black, Hispanic, and Native American women are almost two times more likely to live in poverty than older white women (U.S. Census, 2017). Aging differs markedly for women than men in older age; these disparities also make older women at risk for social isolation.

Deteriorating physical health, death of a spouse and living alone (Victor & Bowling, 2012), make older adults particularly vulnerable to social isolation and loneliness. Being socially-isolated is associated with adverse mental and physical health consequences (Luanaigh & Lawlor, 2008) including depression, decreases in cognitive functioning, cardiovascular disease, lowered quality of life, and mortality (Courtin & Knapp 2017). Moreover, lacking social connection may be as damaging as smoking 15 cigarettes a day (Holt-Lunstad, 2015). Given the growing proportion of older women in the U.S. and their risk for social isolation, it is a significant social issue that demands further attention. One aspect of social isolation is the necessity for older adults to maintain mobility in order to meet social needs.

Maintaining relationships with others, particularly meaningful ones, is critical to lessen social isolation and loneliness, and, in turn, having mobility facilitates social well-being (Clarke & Gallagher, 2013). In addition, it is also integral to maintaining independence (Fried, Ferrucci, Darer, Williamson & Anderson, 2004; World Health Organization, 2015); for example, older adults must continue to accomplish activities of daily living (ADLs), which include basic tasks of self-care, and continue instrumental activities of daily living (IADLs), which includes getting to medical appointments and participating in social activities. Driving is the most common and preferred mode of transportation in the United States (U.S.), however, for some older adults, driving becomes limited in older age (Taylor & Tripodes, 2001). When such a reduction occurs, walking becomes the most common form of mobility, particularly for older adults living in urban settings (Satariano et al., 2012). This makes neighborhood walkability a critical issue for older adults. Neighborhood built environments interact with individual physical abilities and can impede or enhance mobility (Clarke et al., 2009; Webber et al., 2010). For example, those with mobility limitations may not be able to walk as far without stopping to rest or may take longer

when crossing the street (Carlson et al., 2012; King et al., 2003). Therefore, the built environment interacts with the social environment (Kweon et al., 1998) and may have an increased effect on the health of older adults' physical health (Horner et al., 2015), as well as their social well-being (World Health Organization, 2015). The intersection of both affects the potential for social isolation. Thus, older adults are vulnerable to social isolation due to individual factors such as deteriorating physical health or living alone, but also external environmental factors that limit mobility.

Significance of the Study

The issues related to older social isolation and the broader concept of social well-being have finally appeared and will likely remain on national and international agendas as the older adult population grows. The topics of social isolation and mobility have been recognized by the World Health Organization (WHO), which has highlighted mobility in their Global Network of Age-Friendly Cities and Communities to guide cities in creating environments for active aging (2007). The topic of transportation and mobility has also appeared on the agenda of multiple White House Conference on Aging meetings (White House Conference on Aging, 1974, 2005). Given the overwhelming evidence showing social isolation as a significant health issue, a special committee at the National Institutes of Health (National Research Council [NRC], 2001) issued a report in 2001, which included personal ties as a priority for research investment that could lead to significant health improvements. More recently, in 2015, the American Academy of Social Work and Social Welfare added social isolation to their Grand Challenges for Social Work, which was designed to focus action on the most compelling and critical social issues of our society. The Grand Challenges report highlighted the importance of including marginalized groups and stated that addressing this social problem would require an interdisciplinary and

multisystem approach that considers social isolation at both the individual and societal levels (Lubben, Gironda, Sabbath, Kong, & Johnson, 2015). They further cited the need to enhance social inclusion for older adults by creating aging-friendly community environments (Scharlach, Graham, & Lehning, 2011).

In addition to the increased national attention to older adult well-being, the topic has also become a focus of policy efforts in the state of California. Policies related to mobility include improvements in the safety and accessibility of roadways. California Complete Streets Act of 2008 requires cities and counties to ensure that roadways are designed for safe, comfortable, and convenient travel by all modes - walking, biking, driving, and transit -- for all ages and abilities, and include wider sidewalks, and better intersection lighting. Unfortunately, the Act was vetoed in October of 2019 by Governor Newsom, who cited its cost as prohibitive (California Legislative Information SB-127, nd). Despite setbacks at the state level, the City of Los Angeles' Department of Transportation and Los Angeles Metro currently have multiple initiatives aimed at improving traffic safety, sidewalks and addressing transit needs (e.g. Vision Zero, Safe Routes for Seniors [SR4S], On the Move Riders Club). These indirectly or directly address older adult mobility needs (Los Angeles Metro, nd; Los Angeles Department of Transportation, nd). What these policies and initiatives lack; however, is a focus on the diverse needs of older women in Los Angeles, particularly those who are socially-isolated or at risk. Though there are currently gaps regarding the mobility needs of older women, significant shifts are occurring at both the state and county state levels that may provide a window of opportunity for addressing the need for age-friendly environments.

First, there are plans on the horizon that show the potential to broadly address the shifting demographics towards preparing for aging populations in the state. In June of 2019, California

State Governor Gavin Newsom signed an executive order calling for the creation of a Master Plan on Aging to be developed by Oct 1, 2020. The Master Plan will serve as a blueprint that will be used by the state government, local communities, private organizations and philanthropy to build environments that promote healthy aging and an age-friendly California. This Executive Order is significant: a California governor has never committed leadership and resources to whole-scale systems planning to meet the needs of California's aging population. One of the intentions is to promote cross-sector collaboration that addresses aging outside the traditional spheres of health and human services and the public sector. One of the foundations of the plan is to build capacity for the coordination of services between state agencies and private entities including that of housing, transportation, health care, and veteran affairs, among others. Both the state of California and the county of Los Angeles County have efforts underway seeking to create age-friendly environments and are open to policy recommendations, which this research will seek to provide.

Second, in anticipation of the state plan, the county and city of Los Angeles established Purposeful Aging Los Angeles (PALA) which has created its own 'Age-Friendly Action Plan' 2018-2021. This plan includes efforts to enhance age-friendliness in key areas including outdoor spaces and buildings, social participation and transportation, amongst others, as relating specifically to Los Angeles County, and complements the state plan (Age-Friendly Action Plan, 2018). PALA has thus far published recommendations in key areas, including social participation, respect, and social inclusion, transportation, and outdoor spaces and buildings, among others. However, a focus on linking the importance of social well-being with mobility and transportation, as well as a focus on the needs of growing at-risk sub-populations such as older women are currently nascent.

Third, the city and county of Los Angeles currently have two separate Area Agencies on Aging (AAA) (namely, the Department of Work Force Development, Aging and Community Services, and the Los Angeles City Department of Aging), however, this will likely be changing in near future (Los Angeles County Board of Supervisors, Motion 19-0802, 2019). A motion entitled, "Improving Los Angeles County's Approach to Serving Older Adults" written by Supervisor Janice Hahn, asked for a feasibility study regarding the creation of a consolidated and standalone department for the county. This anticipated change is advantageous as services and programs may be more efficiently managed. Alternatively, this may also significantly delay and/or complicate enacting PALA recommendations while the needs of the aging population continue to grow.

Current research evidence on social isolation and well-being among older adults draws upon work from a range of disciplines. This has contributed to the richness of our knowledge, but one without a clear message from a single body of work regarding this significant social problem. The lack of a clear message may explain, in part, why policymakers continue to ignore social well-being, especially compared to physical and mental health issues. Cross-disciplinary studies of this hard-to-reach group of isolated older women are essential in order to address their specific needs. Further, investigations on social isolation have historically focused on a single dimension of this multi-dimensional phenomenon, i.e. they have failed to consider the interaction of individual and external factors that may contribute to isolation. Though the research literature in gerontology, health, and transportation agree that the built environment has a significant impact on mobility and social well-being, several gaps in the research exist which this dissertation will seek to address.

First, despite various disciplines having studies on the topics of older women's social well-being, mobility, and the built environment, researchers continue to address these concepts separately. Further, given the nature of social isolation, little knowledge exists regarding the experiences of older women, and their perceptions of social isolation, especially when such experiences relate to constrained mobility. This dissertation addresses three questions:

1. **Research Question 1 (Manuscript I):** What is the current state of knowledge regarding the intersection of social well-being, and mobility among community-dwelling older women?

2. **Research Question 2 (Manuscript II):** How do older women experience social life and describe their social well-being?

3. **Research Question 3 (Manuscript III):** How do older women understand their social well-being and mobility? How do they perceive obstacles and opportunities for social contact?

Manuscript I is a systematic literature review of the literature in gerontology, urban planning, social welfare and health to assess the current state of knowledge regarding social well-being, social isolation, and mobility among community-dwelling older women. Though there have been multiple disciplines which have broached these topics, we continue to lack clarity. A systematic review covering multiple disciplines was conducted in an effort to create a single body of work to bring attention to and investigate the problem of social well-being and isolation as it relates to mobility.

To complement the systematic review, inside knowledge from older women who are socially-isolated or at risk was pursued. More in-depth qualitative work is needed to better understand the manifestation and meaning of isolation from people who are isolated or have intimate knowledge about those who are (Cloutier- Fisher, Kobayashi, & Smith, 2011). Therefore, the second manuscript is a qualitative study of older women who are isolated or are at-risk for isolation. Manuscript II seeks to gain an understanding of older women's social well-

being with the aim of eliciting the meanings of their social isolation and possible loneliness. This population provided valuable insight into the social lives of a highly vulnerable population.

Older women are a heterogenous group, thus capturing the experiences of those who are more mobile despite being socially-isolated is also called for. This group of women may be exposed to more opportunities to socialize and engage with others within the neighborhoods and cities in which they reside. Manuscript III is a qualitative study of older women who are socially-isolated or at risk, conducted to understand their social well-being and mobility with the aim of eliciting the meanings of, obstacles to, and opportunities for social contact. As opposed to participants discussed in Manuscript II, participants in Manuscript III are mobile and may, therefore, experience social isolation in contrasting and distinctive ways.

Dissertation Model and Paper Summaries

This dissertation examines the multifaceted factors that illuminate the complexities facing older adults. Rather than chapters, it follows a three-paper format. Each paper will be referred to throughout this dissertation as Manuscripts I, II and III.

Table 1: Multi-Manuscript Format

	Description	**Data / Populations**	**Methodology**	**Theoretical Framework**
Manuscript I:	Systematic Literature Review: current state of knowledge regarding the intersection of social well-being, and mobility among community-dwelling older women	Empirical studies published 1990-2018 Quantitative or Qualitative studies of social well-being & mobility Samples: community dwelling, 65+ years living in the US	Thematic Analysis (Moher et al, 2009)	Ecological Model (Bronfenbrenner, 1994)
Manuscript II:	Qualitative study to understand how older women at risk for social isolation to capture their experience and interpretation of their social well-being	Population: community dwelling women, 65+ years living alone in the City of Los Angeles, participants in St Vincent Meals on Wheels or St Barnabas Meals on Wheels	Qualitative - Narrative approach	Life Course Perspective (Elder et al, 2003) & Social Convoy Model (Antonucci et al, 2010)
Manuscript III:	Qualitative study to understand the experiences, meanings of and obstacles to social contact for older women at risk for social isolation	Population: community dwelling women, 65+ years living alone in the County of Los Angeles & participants in MPFT Social Isolation intervention "The Daily Call Sheet (DCS)"	Qualitative - Phenomenological Framework	Social Capital (Putnam, 1995; Coleman, 1998) & Social Ecological Model (M Powell Lawton, 1982, 1989; Nahemow, 2000)

The titles of each manuscript are as follows:

1. **Manuscript I:** Mobility & Social Well-Being Among Older Women: A Systematic Literature Review

2. **Manuscript II:** Diminishing Social Convoys of Older Women: The Significance of a Single Social Contact

3. **Manuscript III:** *"I feel my world getting smaller and smaller":* Neighbors and Neighborhood of Older Women at Risk for Social Isolation

The sections that follow include Manuscripts I, II and III, each concluding with references and appendixes. The final section of this dissertation offers a conclusion to the studies.

Manuscript I: Mobility & Social Well-Being Among Older Women: A Systematic Literature Review

Abstract

Introduction: The lives of older women differ significantly from those of men, as they live longer, are more likely to live alone having never been married, widowed or divorced; and in the absence of a spouse, are substantially more likely to live in poverty. With increased age comes an increased risk of declining health, which when coupled with a lack of mobility, can restrict social well-being as well as older women's ability to age-in-place.

Methods: This systematic review searched for, appraised and synthesized research evidence to help understand the intersection between mobility and social well-being among community-dwelling older adult women in the United States. In order to address this broad research question, this approach included both quantitative and qualitative study designs.

Results: A variety of disciplines and methodological approaches were represented in the 18 studies identified. Findings specific to older women were scant but highlighted when available. Findings of studies using the Social Ecological Model highlight the significance of the *meso* system, that between individual characteristics and the *micro* system and individual characteristics and the *exo* system. Specifically, *micro* system factors such as friends, family, and social support, *exo* system factors such as availability of public transit, presence of third places, and other neighborhood characteristics.

Conclusion: Gaps in the literature include a lack of research on older women's social well-being as affected by their level of mobility, and indication if samples resided in rural, suburban, and urban areas. Future research should address perceptions of safety in the environment - both the built environment and from other people, particularly for older adult women.

Introduction

Population growth & social well-being.

In the United States, the population of those aged 65 and older will rise from 16 percent to 23 percent by 2060 (World Health Organization [WHO], 2002). Significant differences exist in women compared to men in older age. For example, there is a larger number of older women than men who live alone, having never been married, widowed, or divorced (Rosenbloom, 2002). Further, in the absence of a spouse, older women are substantially more likely to be living in poverty than comparable men (Rosenbloom, 2002). This demographic shift entails fundamental social, economic, and development challenges including the increasing priority to meet the needs of older persons enabling them to live longer, healthier lives and remain in their homes.

According to WHO, health in older age is described as a "life course process of optimizing opportunities for improving and preserving physical, social and mental wellness, independence, quality of life and enhancing successful transitions" (WHO, 2002). This holistic definition of health is significant for the aging population, since older individuals face an increased risk for decline in physical and cognitive functions, while at the same time living with shrinking social networks (Chen & Feeley, 2013). The literature demonstrates that social relationships are positively associated with health status across the life span (e.g., Cohen, 2004; Uchino, Cacioppo, & Kiecolt-Glaser, 1996). Social well-being is particularly important for life satisfaction and quality of life (Berkman & Syme, 1979; Cohen, 2004). Among the older adult population, participation in social life is associated with physical and mental health benefits, such as better self-rated health, lower mortality risk over time (Adams, Leibbrandt, & Moon, 2011), lower rates of depression, dementia, and cognitive impairments (Hao, 2008). Alternatively, maintaining relationships with others, particularly meaningful ones, is critical to

lessen the risk of social isolation. Social isolation contributes to adverse mental and physical health consequences (Luanaigh & Lawlor, 2008) including depression, decreases in cognitive functioning, cardiovascular disease, lowered quality of life, and mortality (Courtin & Knapp, 2017). The following section briefly demonstrates how research has investigated social well-being in relation to mobility.

Social well-being and mobility.

When considering older adult social well-being, previous research has investigated social participation or engagement with a variety of measures. Various concepts of social well-being have emerged in the literature, which has contributed to what we know about each concept individually; however, without a unifying definition of social well-being, we are severely limited in making any discernable movement toward addressing this significant social issue. In the sections that follow, various aspects of social well-being and mobility are investigated. Mobility connotes the ability to effectively navigate a neighborhood, to reach destinations outside a neighborhood (Webber, Porter, & Menec, 2010) for the fulfillment of utilitarian, psychosocial (Musselwhite, 2015; Rosenbloom, 2004) and health needs (Taylor & Tripodes, 2001). This definition, therefore, covers all forms of mobility to be included: walking, and various transportation options. The built environment may interact with individual mobility, thus, dictating patterns of movement and opportunities for social contact (Kweon et al., 1998). Therefore, the built environment is seen as an important aspect of mobility.

If living in a neighborhood that does not cater to its pedestrians, older adults with mobility limitations may experience negative effects both to physical health (Horner et al., 2015) and social well-being (World Health Organization, 2015). Social participation has also shown to be closely related to mobility in the community (Verdonschot et al, 2009) and at home (Hamzat

& Kobiri, 2008). While older adults prefer to use personal vehicles, those who have a decline in physical health (e.g., cataracts, retinal hemorrhage, and macular degeneration), neurological disorders (e.g., Parkinson's disease, stroke) or cognitive functioning (e.g. dementia) will eventually experience reductions in their mobility (Chihuri, 2016; Taylor & Tripodes, 2001). A recent review of 50 peer-reviewed articles reported having a car or driver's license is a key contributor to older adults' social participation (Levasseur, et al. 2015). Transportation that is both accessible and affordable for older adults is critical to age-friendly communities and is central to living independently; however, because of the aging process, a significant number of older adults will decrease or eventually cease driving and will need alternative transport options to stay connected with their communities (Moniruzzaman, 2015; Rosenbloom & Herbel, 2009; Smith & Sylvestre, 2001). Furthermore, the limited mobility options available to older adults can constrict the geographic distribution of the places to which they regularly travel, known as their 'activity space' or 'life space' (Choi et al. 2015; Schonfelder & Axhausen 2003), thereby, making it difficult to participate in social activities in the community. As the world of older adults shrinks with age, the neighborhood becomes an increasingly important place in which social connections can be made and even social capital can be built by older adults (Buffel et al., 2013). Mobility is vital for people to have an active role in society, as well as for the expression of individual identity and for social life (Mollenkopf, 2003) and is necessary for the overall well-being of individuals.

What we can see from this short summary is that social well-being has been measured in a variety of ways including social contact, social participation, social connections, and activity space. To capture the various relevant aspects of social well-being, I offer my own definition of social well-being to be used from this point forward:

"Satisfaction with social support, interpersonal engagement, and or with active social participation in valued activities."

Gap in research

Social well-being and social isolation, in particular, have received a fair share of attention. However, it has not focused on older women. This focus is warranted given the differing life trajectories of older women who are more likely to live longer than their male counterparts. Further, the social lives of men and women differ later in life. Some studies have shown that older women maintain wider and more well-developed social networks than their male counterparts (Antonucci, 1985; Simons, 1983), while others suggest that gender differences in social interactions disappear in late adulthood (de Jong et al., 2009; Gurung et al., 2003; Silver, 2003). Individually or in combination, the topics of older women's social well-being and mobility have been studied in multiple disciplines namely, in gerontology, public health, social welfare, and urban planning. However, few researchers have investigated older women's social well-being and mobility with a multi-disciplinary lens. Further, these disciplines have used different terms and definitions as well as different theoretical perspectives. The need for solutions to promote and maintain health, offer social support, and ensure age-friendly environments calls for cross-disciplinary collaboration and a perspective that encompasses the individual and external environmental factors involved. A systematic review would improve the current state of knowledge regarding the intersection of these concepts and integrate concepts and definitions.

Research question:

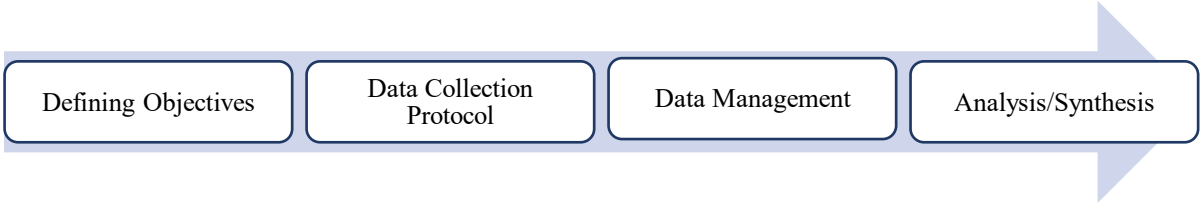
What is the current state of knowledge regarding the intersection of social well-being and mobility among community-dwelling older women?

Methods

The methodological framework used to synthesize and disseminate current knowledge on the associations or influence of mobility or neighborhood environment on the social well-being of older women was based on Moher et al (Moher, Liberati, Tetzlaff, & Altman 2009; Moher, et al, 2015). The purpose here is to summarize existing research and to reexamine previously existing information in a way that contributes to new perspectives by exploring controversial or important topics. This methodology addresses broad questions and includes studies using a range of approaches (Rumrill, Fitzgerald, & Merchant, 2010). Given the emerging nature of this area of inquiry, this type of review does not usually evaluate the quality of the material (Rumrill et al., 2010; Levac, Colquhoun, & O'Brien, 2010) unlike those which follow the Cochrane Collaboration protocol which only includes high-quality research (Cochrane Collaboration, 2011). Moher et al (2009) described a reporting guideline for preparing and reporting systematic reviews which are detailed below.

Methods for conducting this systematic literature review included the following steps: 1) clearly defining objectives, 2) stating criteria for inclusion/exclusion of literature, 3) use of a predetermined search strategy in the collection of the information, 4) presentation of characteristic criteria applied for all sources utilized, and 5) analysis/synthesis of the information of the selected material using thematic analysis (Moher, Liberati, Tetzlaff, & Altman 2009; Moher, et al, 2015).

Figure 1: *Systematic Literature Review Methods*



Identifying relevant studies.

The search utilized electronic databases covering a wide range of disciplines including social welfare, gerontology, health, urban planning, and transportation. Social Welfare and Gerontology databases included: Social Services Abstracts, PsychINFO, Sociological Service Abstracts, PAIS (originally the Public Affairs Information Service), and Academic Search Complete. Health databases included: PubMed, CINAHL Plus (cumulative index to nursing and allied health literature) and Web of Science. Urban Planning/Transportation databases included: Business Source Complete, Transportation Research Record, TRID (Transport Research International Documentation) and Transportation Research Record (Journal) between the years 1990-2018.

Inclusion/exclusion criteria.

Inclusion criteria: An empirical study in a peer-reviewed journal article, written in English and published between January 1, 1990 and Dec 31, 2018. The population studied included community-dwelling women (i.e. not living in a nursing home, assisted living or retirement community) age 65 years or older living in the U.S. The use of age 65 was justified as it corresponds to the eligibility age for numerous social programs such as social security and transportation assistance in the United States. The publication had to examine both social well-being or social isolation and mobility and/or the neighborhood environment.

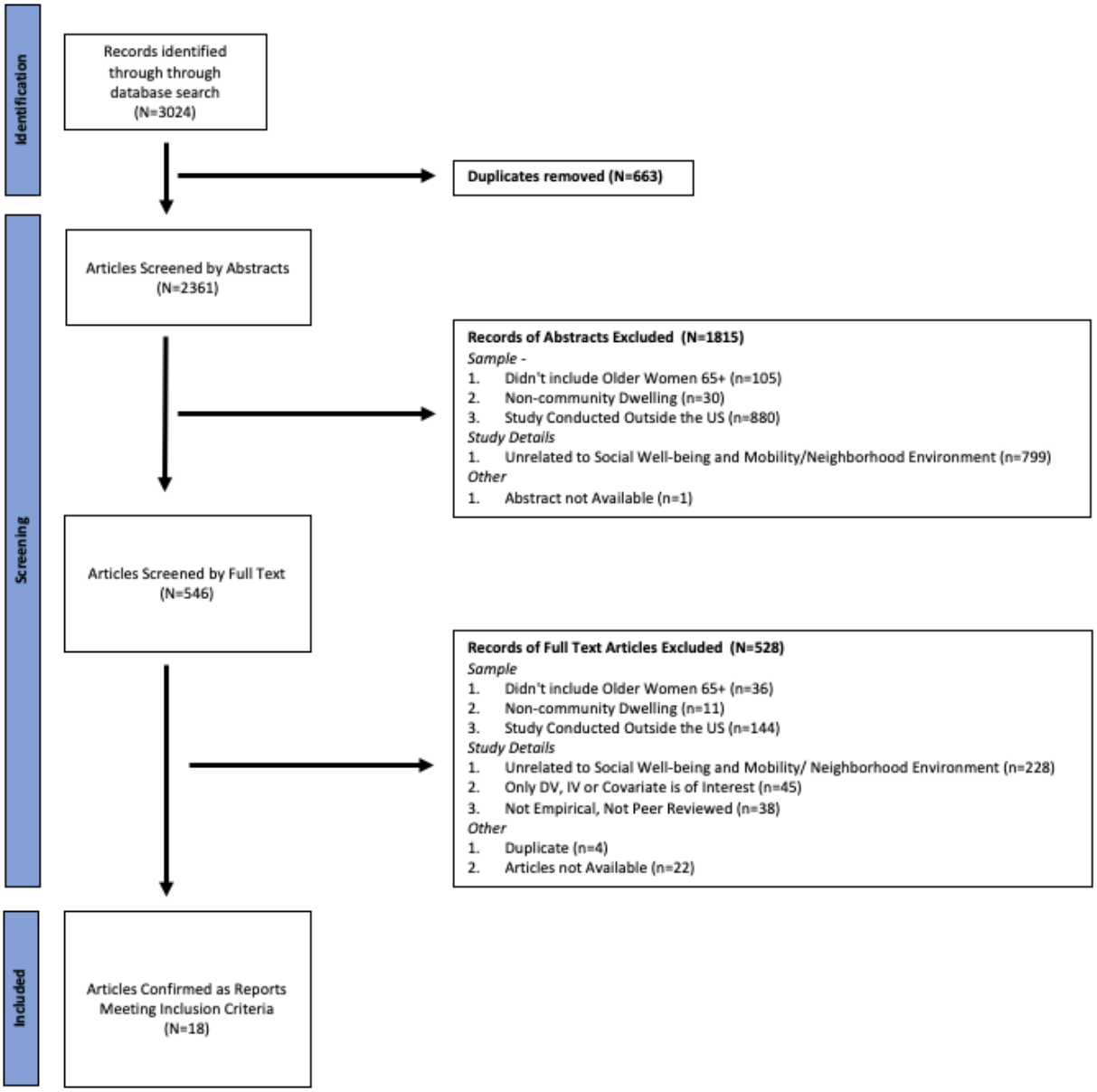
Exclusion criteria: The following criteria for exclusion included: non-empirical studies, not a peer-reviewed journal article, published in a language other than English, or study sample was not community-dwelling older women, 65 years and older residing in the U.S. In terms of substantive focus, the publication did not examine social isolation or social well-being and mobility and/or the neighborhood environment.

The search terms were grouped into three categories: Population/Target Group, Social Well-being, and Mobility. Boolean operators used were as follows: (older adult) AND (social isolation) OR (social well-being) AND (mobility). Key search terms were refined and customized for each database. See Appendix A for the exact search terms utilized.

Data management.

All citations were imported into EndNote X9, a Clarivate Analytics reference management software package used to manage bibliographies and references. From EndNote X9, records were exported into a spreadsheet for synthesis. The matrix method, a structure and a process for systematically reviewing the literature (Goldman & Schmalz, 2004; Tomasic, 2011) was employed. The matrix method helps identify differences and similarities between journal articles regarding a given research topic. First, the citations identified from the search were exported from EndNote X9 into a matrix (an excel spreadsheet). The matrix was organized as an electronic bibliographic database to facilitate the search process. Thus, headers were created in the matrix which included: the electronic database, keywords used (Boolean operator), number of results, and type of publication identified. At each step of the selection process described below, more data was added to the matrix including methodology, research question, sample size, independent and dependent variables, results, etc. which facilitated the selection process. The process is presented in the form of a decision tree or a flow diagram (Figure 2).

Figure 2: *PRISMA Figure*



Data analysis.

The search initially resulted in 3,024 records from all databases, using the matrix 663 duplicates were identified and removed resulting in 2,361 records. Remaining records were screened based on relevance determined by the title and abstract during which 1,815 records were removed resulting in 546 records. This was followed by a second round of screening involving a full-text review for eligibility in which 528 articles were removed. The remaining articles confirmed as meeting the inclusion criteria N=18.

The studies remaining in the final analysis were characterized by author, year, the dataset used, journal, title, research question, participant descriptions, study design including variables used, and findings or themes and documented via the matrix. Data were analyzed by summarizing the collective conclusions of the studies and include key recurrent messages and descriptions of patterns within the data. The final stage involved the synthesis of relevant patterns. Patterns identified within the data constitute the themes.

Results

Descriptive results are presented first which highlight study characteristics, geographical locations, quantitative variables used, and a description of qualitative studies including sub-populations studied. The results section closes with a section describing patterns, or themes, identified in these studies.

Study characteristics.

Year of publication ranged from 1998 – 2018 with the years producing the most studies being 2018, 2013, and 2007 (3, 2 and 2 respectively). Over half of the 18 articles were quantitative (11; 63%), followed by qualitative (6; 31%), and one mixed-methods study (see Table 2 & Table 3).

Table 2: *Overview of Quantitative Articles (n=11)*

Authors, (Year) Dataset	City, State (Urban, Suburban or Rural)	Cross-sectional or Longitudinal (N)	Research Question	Dependent Variable	Outcome Measures	Results
Adler, et al (2005)	Minneapolis, MN (Urban, Suburban & Rural)	Cross-sectional (118)	What are the driving patterns of older women specifically regarding social support	*Social support:* MOS Social Support Survey (MSSS): subscales: emotional/ informational, tangible, affectionate, positive social interaction. Age, Residential setting, Marital status	*Driving Behavior & Alternatives*: driving experience, amount of driving, driving activities, restrictions to their driving, the importance of driving, and transportation alternatives	• Younger women were more likely to drive daily, took longer trips, drove more miles • Women with greater comorbidity were more likely to limit their driving • Women living with a non-driver had substantially reduced social interaction, social functioning, tangible support, mental health, lower total number of family and friends
Brown et al (2011) The Hispanic Elders' Behavioral Health Study	Miami, FL (Urban)	Longitudinal (217)	Examined possible bidirectional relationships between neighborhood climate and walking behavior in	*Neighboring behavior:* supportive acts of neighboring, neighborhood attachment, neighbor annoyance, and informal social ties. *Physical activity* (total blocks walked). Participants walking routes during	*Neighboring behavior:* supportive acts of neighboring, neighborhood attachment, neighbor annoyance, and informal social ties. *Physical activity* (total blocks walked). Participants walking routes during	• At the initial assessment, younger individuals walked more blocks than did older individuals and that women walked fewer blocks than men • Walking behavior at the initial assessment was not significantly related to their subsequent perceptions of

			older Hispanics	preceding 7 days (Perrino, Mason, Brown, & Szapocznik, 2010)	preceding 7 days (Perrino, Mason, Brown, & Szapocznik, 2010)	neighborhood climate at follow-up • When assessing the bi-directional relationship; higher levels of neighborhood climate predicted an increase in walking at follow-up
Cohen-Mansfield et al (2007)	"Unknown", MD (Unknown)	Cross-sectional (161)	Examined predictors of loneliness among low-income older adults using the Model of Depression and Loneliness	*MODEL* Questions on factors of: environmental, health, stressful life events, and psychosocial barriers	*Loneliness* Using 19 items from the UCLA Loneliness Scale (three modified questions) and additional questions: a) "How often do you feel that you wish to have more friends?" b) "How often would you say you feel lonely?" & *Depressed affect* was assessed via the Geriatric Depression Scale (GDS)	• Self-efficacy in social situations was the most important predictor of loneliness, followed by financial resources, then mobility difficulties and lastly lack of opportunities for social contact but not living alone • Loneliness was the strongest predictor of depression
Latham et al (2018) National Health & Aging Trends Study (NHATS	National (Unknown)	Cross-sectional (6,383)	Explored association between physical neighborhood disorder or perceived social cohesion	*Neighborhood physical disorder:* 2 questions on a) presence litter/trash on sidewalks, graffiti on walls, and b) presence of vacant homes or stores *Community support / cohesion:* 3 questions - (a) People know each other well,	*Social Participation*: (a) visiting in person with friends or family not living with person; (b) attending religious services; (c) participating in clubs, classes, or other organized activities; and (d) going out for	• Social participation was lower for those living in neighborhoods with low social cohesion and more physical disorder, net of activity value • Value placed on the activity did not moderate the relationship between

) - 2011 wave			and participation in social activities	(b) people are willing to help each other, and (c) people can be trusted; each answered on a 3-point scale (do not agree, agree a little, agree a lot). A composite index was created by averaging responses to the three items	enjoyment (dinner, a movie, to gamble, hear music, or see a play)	neighborhood features and participation, except for religious activities • Those who highly valued attending religious activities, but perceived low social cohesion or neighborhood disorder were less likely to participate compared their counterparts • Women were more likely to have visited friends and family compared to men • Women, older respondents, and with higher education were more likely to participate in activities
Lehning et al (2018) National Health and Aging Trends Study (NHATS) - 2011 wave	National (Unknown)	Cross-sectional (7,197)	Examined association between transportation and social activity participation among low income older adults	*Transportation Mode:* driving, rides from others, walking or public transportation in the last 30 days	*Social Activity*: (a) visiting with friends and family; (b) attending religious services; (c) participating in organized activities; (d) going out for enjoyment	• Economic vulnerability moderated the association between transportation mode and social activity restrictions • Despite access to transportation the economically vulnerable may be at a higher risk for social exclusion • Barriers to participation varied depending on the specific type of social activity

						• Depending on others for rides was related to restricted participation in all activities • Women were more likely to be restricted in attending religious services or participating in clubs
Mendes de Leon, et al (2003) New Haven Established Populations for Epidemiologic Studies of the Elderly (EPESE)	New Haven, CT (Unknown)	Longitudina (2,761)	Examined effect of social engagement on disability	*Social Engagement & productive activity:* Within 7 days: visits to theaters, sporting events; shopping; gardening; meal preparation; game playing; day or overnight trips; paid community and unpaid community work, paid employment; church attendance. Fitness activity: questions on active sports or swimming, walking, physical exercise	*Disability Status*: (Upper & Lower Extremity function) a) ability to perform essential self-care tasks, b) derived from the Rosow-Breslau *Functional Health Scale*: ability to do heavy work around the house, to walk up and down the stairs, and to walk half a mile c) basic upper- and lower-extremity function	• More socially engaged older adults reporting less disability • Social engagement is a short-term protective factor, but not at follow-up • Strong, but not necessarily causal association of social engagement with disability • Women and Blacks generally did not show significant differential increases or decreases in disability over time
Ostir, et al (2007) Women's Health and	Baltimore, MD (Unknown)	Cross-sectional (999)	Examined interactive effects of depressive symptoms and lower extremity	*Lower extremity functioning:* The Short Physical Performance Battery (SPPB) includes three objective tests of lower extremity function a) balance b) a	*Social Participation*: Subscale of Perceived Quality of Life Scale (Patrick et al., 1988), measures an Satisfaction with community or	• Regardless of depression symptoms, those with higher levels of mobility were more satisfied with social participation • Those who reported lower levels of depressive

Aging Study I			functioning on social participation	4-m walk c) repetitive chair stands. *Depression* using The Geriatric Depression Scale (GDS) measure of depressive symptomatology (Yesavage et al., 1982)	neighborhood participation, satisfaction with getting outside of the house, and satisfaction with recreation or leisure activity	symptoms had higher levels of satisfaction with participation • Over all, disability had bigger effect on social participation for those who were depressed than those who were not
Parisi et al (2017) National Health and Aging Trends Study (NHATS),	National (Unknown)	Cross-sectional (6,675)	Examined activity preferences, participation & barriers among individuals with and without cognitive impairments	*Social participation*: Importance of participating in these 'leisure' activities: (a) visiting in person with friends or family not living with person; (b) attending religious services; (c) participating in organized activities; (d) going out for enjoyment in last month	*Transportation & Health Barriers*: Transportation or Health restrictions to their social participation (yes/no)	• Visiting friends/family was most important • As probability of dementia increased, value of social activities decreased • Poor health limited social participation for those without or with possible dementia, but not for those with probable dementia • Those with probable dementia were more likely to report transportation and health as a barrier
Pristavec (2018) National Health & Aging Trends Study (NHATS) - 2011	National (Unknown)	Longitudinal (4,359)	Examined role of driving mobility in formal and informal social participation	*Driving Frequency:* Comparison of driving and ride receipt change between Waves 1 and 3	*Social Participation*: 2 informal participation: a) visiting friends and family not living with the respondent and b) going out for enjoyment & 2 formal participation: a) attending religious services and b)	• Frequent drivers most likely to visit friends and family, go out for enjoyment, attend religious services, and participate in organized activities • As self-driving and receiving rides from others increased, so did social participation as a whole

& 2013 waves					participating in organized activities	• Participation did not differ between those who ceased driving and those who never drove • Women are more likely than men to participate in activities as a whole • Women were more likely than men to visit with friends and family, attend religious activities and participate in organized activities
Rosso, et al. (2013) Household Health Survey (HHS)	Philadelphia, PA (Urban)	Cross-sectional (676)	Examined associations between mobility with or without disability and social engagement	*Life Space Assessment (LSA)* (modified for urban population) a) regularly traveled in their home zip code only, b) regularly traveled to an adjacent zip code, or c) regularly travelled two or more zip codes away d) did not regularly leave their home (Baker et al., 2003; Peel et al., 2005). *Disability:* 6 items each activities of daily living (ADL) and instrumental activities of daily living (IADL) (Lawton & Brody, 1969)	*Social Engagement*: Total number of social organizations participated. Knowledge and use of senior center activity programs. Frequency of telephone conversations with friends or family. Frequency of internet usage	• Lower life space mobility (LSA) and increased disability independently indicated lower formal social participation • Disability had a greater effect on social engagement than mobility • Those with low mobility without disability were older, more likely to be female, be non-white, have chronic conditions, lower socio-economic status and have depression or high levels of stress • Those with disability were older, more likely to be female, non-white, live in

						poverty, and more likely to have chronic conditions
Szanton, et al (2016) National Health and Aging Trends Study (NHATS) – 2011 wave	National (Unknown)	Cross-sectional (7197)	Examined importance of, current level of and barriers to involvement in social or community activities, among homebound and semi-homebound adults	*Homebound status* – ‘‘Within the last month, how often did you go outside?’’ Categorized into Homebound, semi-homebound, not homebound	*Social Participation*: Importance of participating in these 'leisure' activities: (a) visiting in person with friends or family not living with person; (b) attending religious services; (c) participating in organized activities; (d) going out for enjoyment in last month. Level of importance placed on each activity, and barriers to participation	• Homebound individuals were older, more likely to be female and non-White • Homebound and semi-homebound older adults highly valued social activities • The highest value was placed on seeing family and friends, which both groups accomplished frequently • Semi- and homebound groups reported more activity-limiting health and transportation issues than non- • Health issues were a bigger barrier than transportation for both groups

Table 3: *Overview of Qualitative and Mixed Methods* Articles (n=7)*

Authors (Year)	**City, State**	**Research question**	**Sample Characteristic**	**Results**

Burnett et al (2010)	Boston, MA	Examined relationships between movement, non-movement, communicative travel and place-bound and place-creating social relations	Senior Center participants	• Interaction/participation was a result transportation mode and planned presence at the senior center • Social participation resulted from pre-arranged organized activities which defined the center as a 'social' place. • Changes in mobility ability resulted in adaptations such as telephone calls and email/internet use
Countouris, et al (2014)	Pittsburgh, PA	Examined health needs following hospital closure in an low-income community	African American	• Feelings of abandonment by their community, transportation challenges in accessing health care and social isolation
Johnson* (2018)	Unknown	Explored association between physical neighborhood disorder or perceived social cohesion and social participation	Rural Women	• Driving cessation was due to a decline in physical function and/or involvement in a nonfatal accident • Adequate social support was critical to driving cessation • Those with limited social networks resumed driving
Morrissey (1998)	"Midwestern city"	Explored factors related to woman's ability to age-in-place	Women	• Resources (income, transportation, social support) and individual characteristics (health status, value system, self-descriptions). Moderator: Value of independence
Scharlach et al (2011)	Concord, CA	Service provision needs assessment, for meeting needs of vulnerable populations	Hispanic or Latino	• Structural issues (transportation, housing costs, health care) • Social isolation due to linguistic isolation, long periods alone, a fear of crime & immigration authorities • Emotional distress, caused by physical health, social and cultural dislocation
Shaw et al (2013)	Unknown	Explored perceptions of social relationships and how they might improve their connectedness if needed	Deaf retirees	• Reductions in social connectedness with their younger counter-parts at traditional community meeting places due to transportation challenges and advances in communication technology

Smith (2012)	Unknown	Described how older adults experience loneliness and explored coping practices	Lonely	• Loneliness was a result of disrupted meaningful engagement, due to age-related changes, death of spouse, retirement, driving cessation • Coping practices included: reaching out to others, helping those in need (volunteering), seeking companionship with pets

Study locations.

The five studies using national datasets (NHATS) did not describe whether the sample was urban, suburban or rural; however, there were a number of studies that cited a state or region of the country (11) and others that did not indicate where their sample was drawn from other than indicating that was from the U.S. (2).

When state or region was indicated, the majority of studies were conducted with populations on the East coast of the U.S. (7), most commonly Maryland and Pennsylvania. When cities were specified, studies included Baltimore, MD (Ostir, et al, 2007), Boston, MD (Burnett & Lucas, 2010), Philadelphia, PA (Rosso, et al, 2013) and Pittsburgh, PA (Countouris, et al, 2014). Cities on the east coast also included Miami in Florida (Brown, et al, 2011), and New Haven in Connecticut, where the population was specified to be both urban and suburban (Mendes de Leon, et al, 2003). An equal number of studies represented the mid-west (2) and the west coast. The mid-west was represented by Minneapolis, MN, where the sample was a mix of urban, suburban, small town, and rural populations (Adler, et al, 2005) and another study, which only specified that its sample was from a "Midwestern city" (Morrissey, 1998). Two studies collected data from the West coast (2), one stating their sample was from the “western U.S.”, though they did specify their sample to represent 16 rural communities (Johnson, 2008). The second study was drawn from Concord, CA (Scharlach & Sanchez, 2011). Finally, two studies with primary data did not indicate where their samples resided (Smith, 2012; Shaw & Roberson, 2013).

Quantitative studies.

There were 11 quantitative studies included in this literature review. Given the multidisciplinary topic, a variety of disciplines were represented with seven articles representing

journals in gerontology (Adler, Rottunda, Bauer, & Kuskowski, 2005; Brown, et al, 2011; Lehning, Kim, Smith, & Choi, 2018; Latham & Clarke, 2018; Parisi, Roberts, Szanton, et al 2016; Pristavec, 2018; Rosso, Taylor, Tabb, & Michael, 2013), four were interdisciplinary (Cohen-Mansfield & Parpura-Gill, 2007; Ostir, Ottenbacher, Fried, & Guralnik, 2007; Szanton, et al, 2016), and one was from public health (Mendes de Leon, Glass & Berkman, 2003).

The majority of studies were cross-sectional (8), and the most common data used were from the National Health and Aging Trends Study (NHATS) (5) (Latham & Clarke, 2018; Lehning, et al, 2018; Parisi, et al, 2017; Pristavec, 2018; Szanton, et al, 2016). Three studies were longitudinal (Brown, et al, 2011; Mendes de Leon, et al, 2003; Pristavec, 2018).

These studies approached the topic of social well-being and mobility in a variety of ways. Social well-being measures looked at participation and activities, social support, neighborhood social climate, and social isolation. When looking at mobility, studies generally considered transportation type or mode, challenges, and changes over time. When measuring mobility, studies also considered individual characteristics such as personal health characteristics as they related to mobility.

***Social well-being measures*.** Studies measured various aspects of social well-being with social participation being the most common (Mendes de Leon, et al, 2013; Rosso, et al, 2013; Szanton et al, 2016; Latham & Clarke, 2018; Lehning, et al, 2018; Ostir, et al, 2007; Parisi, et al, 2017; Pristavec, 2018). Though two studies (Mendes de Leon, et al, 2013; Rosso, et al, 2013) used the term “social engagement”, the definition provided was essentially identical to that of participation. The most common measures of social participation, were measurements of social support (Adler et al, 2005), neighborhood social climate (Brown et al, 2011) and social isolation (Cohen-Mansfield & Parpura-Gill, 2007).

Social participation measures captured the frequency of, and the value placed on participating in informal activities such as visiting with friends or family, and formal activities such as religious services or clubs (Rosso, et al, 2013; Szanton et al, 2016; Latham & Clarke, 2018; Lehning, et al, 2018; Ostir, et al, 2007; Parisi, et al, 2017). Two studies captured participation but did not specify whether the participant was satisfied with the activity (Mendes de Leon, et al, 2013; Pristavec, 2018). Lastly, one study only measured formal organization participation (Rosso, et al, 2013).

Social support was measured using established measures such as the MOS Social Support Survey (MSSS), which includes subscales of emotional/ informational, tangible, affectionate, and positive social interaction. This tool differs from other participation measures as it fails to capture specific social activities and their subjective value to the participant. However, it succeeds in capturing the substance of social interactions with others (Adler et al, 2005). Similarly, Brown et al. (2011) included a measure of types of social support but limited them to support by neighbors, neglecting support received from family or friends. Lastly, one study looked at the antithesis of social well-being, that of subjective social isolation or loneliness (Cohen-Mansfield & Parpura-Gill, 2007). The study used a widely utilized measure, the UCLA Loneliness Scale, slightly modified with the addition of questions capturing the desire for an increase in social contact.

Measures of social well-being were captured differently in these studies, the most common measure was participation in informal and formal activities, with the additional measure of satisfaction or value placed on the activity. Less common were measures of social support and feelings of loneliness as additional aspects of social well-being.

Mobility measures. The majority of studies examined mobility by looking at individual characteristics, however, other studies employed measures capturing transportation use and neighborhood characteristics.

Individual characteristics measures captured functional health and both upper & lower extremity function (Mendes de Leon, et al, 2013), or when using the Short Physical Performance Battery (SPPB), specifically measured lower extremity functioning (Ostir, et al, 2007). The Short Physical Performance Battery (SPPB) includes three objective tests of lower extremity function including balance, walking ability, and repetitive chair stands. Other studies created measures of movement outside of the home such as measures of "homeboundness", i.e. the frequency of leaving the home and level of assistance needed to do so (i.e. not homebound, semi-homebound and homebound) (Szanton et al, 2016). One study captured mobility by utilizing the Life Space Assessment (LSA). This explored participant movement including distance and frequency of travel in their home zip codes, adjacent zip codes and two or more zip codes away, and need for assistance (Rosso, et al, 2013). Another individual characteristic of mobility measured was walking. One study measured the number of blocks walked in the last seven days (Brown, et al, 2011), while another measured difficulty getting out of the house regardless of lower extremity functioning or level of assistance received (Cohen-Mansfield & Parpura-Gill, 2007).

Mobility measures also included transportation use. One study looked generally at health restrictions and transportation barriers (yes/no) (Parisi et al, 2017), while other studies measured transportation mode capturing frequency of driving, rides from others, walking or public transit use in the last 30 days (Lehning et al, 2018). When considering personal vehicle use, studies investigated driving behavior changes as well as being depended on (Adler, et al, 2005) or depending on others for rides over time (Pristavec, 2018).

Lastly, one study considered aspects of the neighborhood environment as relating to mobility. Graffiti, trash, and litter were proposed as factors that make outdoor wayfinding physically hazardous, and signs of physical disorder such as vacant homes indicate cues of community decline that may promote fear and psychological stress among older adults. This study operationalized "neighborhood problems" which may create barriers to in the community or limit the opportunities to engage in social interaction (Latham & Clarke, 2018).

Qualitative studies.

Seven studies utilizing qualitative methodologies were comprised of six qualitative and one mixed-methods study. Of the disciplines represented in qualitative studies, two articles represented journals in gerontology (Scharlach & Sanchez, 2011; Shaw & Roberson, 2013), one was interdisciplinary (Countouris, Gilmore & Yonas, 2014), and one each from health (Johnson, 2008), psychology (Smith, 2012) and transportation (Burnett & Lucas, 2010). All were cross-sectional except for Morrissey (1998) and Countouris, et al. (2014).

A variety of methodological approaches were represented; the most common was to conduct semi-structured individual interviews (Burnett & Lucas, 2010; Johnson, 2008; Smith, 2012), with one including two sequential interviews (Morrissey, 1998). One study additionally included interviewer observations in their data (Scharlach & Sanchez, 2011). Two studies conducted focus-groups (Shaw & Roberson, 2013) including one conducting a series of interviews over 14 years (Countouris, et al, 2014).

These qualitative and mixed-methods studies examined a variety of topics that either investigated social well-being and mobility directly or these topics were identified in their results. Two studies included research questions looking specifically at the relationship between mobility and social relationships (Burnett, 2010; Johnson, 2018). Alternatively, the majority of

qualitative studies identified social well-being and or mobility in their findings. For example, studies of age-friendly environments identified social well-being and mobility as contributing to aging-in-place successfully (Morrissey, 1998) or as needs of an economically disadvantaged community following a hospital closure (Countouris, et al, 2014).

Sub-populations. Though quantitative studies included a variety of sub-populations; comparatively, a larger number of qualitative studies focused on specific sub-populations. Their samples included older women (Johnson, 2008; Morrissey, 1998) those women living in rural areas (Johnson, 2008), deaf retirees (Shaw & Roberson, 2013), economically disadvantaged communities (Countouris, et al, 2014) including Latino communities (Scharlach & Sanchez, 2011), senior center participants (Burnett & Lucas, 2010) and those who were socially-isolated or lonely (Scharlach & Sanchez, 2011; Smith, 2012). The inclusion of these sub-populations is significant as it highlights aspects of social well-being and mobility challenges not captured in quantitative studies. For example, social interaction adaptations (Burnett & Lucas, 2010) and coping practices for loneliness (Smith, 2012), feelings of community abandonment and non-traditional places to be social (Countouris, et al, 2014; Shaw & Roberson, 2013), and fear of crime and immigration authorities (Scharlach & Sanchez, 2011). These sub-groups of older adults may have divergent needs, and thus qualitative studies focused on these populations make important contributions to understanding these needs.

Key findings.

Women, mobility and social well-being. The first key finding from this literature review was the lack of studies specifically on social isolation or loneliness concerning mobility or neighborhood environments. When quantitative studies investigated this intersection, gender was

not a significant finding in higher-level models. Key findings below include both older men and women and when discernable, data on women.

Health barriers and mobility impairment. Older adults highly valued social activities, particularly visiting with friends and family (Parisi, et al, 2017; Szanton, 2016); however, individual factors such as declining health and disability contributed to decreases in their ability to participate in social activities (Morrissey, 1998; Parisi, et al, 2017; Smith, 2012). Declines in physical health affecting women's functional ability (Morrissey, 1998), impaired mobility as well as losses in vision and hearing (Smith, 2012) were all found to be associated with challenges in social participation, which for some women, led to feelings of isolation and loneliness (Smith, 2012). Mobility impairment was measured in a variety of ways including homebound status (homebound, semi-homebound or non) (Szanton, et al, 2016), dependence or inability to perform one or more ADL or IADL tasks (Rosso, et al, 2003), or lower-extremity functioning using the Short Physical Performance Battery (SPPB) test (Ostir, et al, 2007). Higher levels of disability were found to decrease social participation, regardless of how it was measured (Ostir, et al, 2007; Rosso, et al, 2003; Szanton, et al, 2016). One study, looking at associations between mobility impairment and social participation, found that those with disabilities were older, more likely to be female, non-white, live in poverty, and more likely to have chronic conditions (Szanton, et al, 2016). A study specifically of older women found that lower extremity functioning had a larger effect on social participation for those who were depressed than those who were not. Further, regardless of depression symptoms, those with higher levels of mobility were found to be more satisfied with their social participation (Ostir, et al, 2007).

Mental health, mobility, and social well-being. When considering mental health, two areas were considered: dementia and depression. One study looked at social participation among those with and without cognitive impairments. Though poor health was not found to limit participation for those with probable dementia, as the probability of dementia increased (from none, to possible, to probable), the value placed on social activities was found to decrease (Parisi, et al, 2017). Another study considered multiple factors (environmental, mobility/health and psychological factors) related to loneliness and depression (Cohen-Mansfield & Parpura-Gill, 2007). The presence of mobility difficulties, namely difficulty getting out of the house, had an independent effect on loneliness as well as depression. There was no discussion of results by gender. It may be that there were no significant results for women; the majority of the sample was female (75.8%) (Cohen-Mansfield & Parpura-Gill, 2007).

Transportation and social well-being. Transportation was investigated in a variety of ways. Some investigated transportation barriers related to engaging in social activity (Lehning, et al, 2018). Others looked at transportation accessibility in relation to aging-in-place (Morrissey, 1998), to intergenerational social connectivity (Shaw & Roberson, 2013) and social isolation (Scharlach & Sanchez, 2011). When considering all forms of transportation (driving, rides from others, public transit, or walking), women were found to be more likely than men to have restrictions specifically in formal activities (attending religious services or participating in clubs) (Lehning, et al, 2018). Transportation was identified as a barrier for various subpopulations of older adults. A low-income, largely female African American community struggled to access health care when public transit routes were cut or changed, forcing them to wait for a long period of time for transfers (Countouris, et al, 2014). Similarly, in addition to mobility issues related to health, a group of Hispanic or Latino older adults identified challenges with transportation

accessibility which contributed to their social isolation (Scharlach & Sanchez, 2011). Lastly, among other resources shortages such as income, social support and coping behaviors, older women identified transportation as a barrier to their ability to age-in-place.

Driving themselves was the preferred mode of transportation either as the driver or the passenger (Lehning, et al, 2018; Morrissey, 1998; Adler, 2005; Pristavec, 2018; Smith, 2012). For those with higher levels of cognitive decline (Parisi, et al, 2017) and for women with greater comorbidity (Adler, et al, 2005), driving was limited. Driving cessation typically occurred due to a decline in physical function and/or involvement in a nonfatal accident (Johnson, 2008). The ability to drive was associated with social participation in a variety of ways including participation in specific activities. Frequent drivers were most likely to visit friends and family, go out for enjoyment, attend religious services, and participate in organized activities (Pristavec, 2018). Compared to men, women were more likely to participate in activities as a whole (Pristavec, 2018). Women who drove and lived with a non-driver were found to have substantially reduced social interaction, social functioning, tangible support, mental health, and a lower total number of family and friends (Adler, et al, 2005). Though participation varied depending on the specific type of social activity, economic vulnerability (Medicaid receipt) moderated the association between transportation mode and social activity restrictions (Lehning, et al, 2018). In addition to health factors, retirement and death of a spouse, driving cessation was related to people's ability to be social and surfaced as a factor related to feelings of isolation and loneliness (Smith, 2012). Being socially connected to others was identified as highly important to a group of deaf retirees. This population largely did not drive and also recognized transportation to be one of the issues contributing to their ability to partake in mentoring others and contributing to the next generation (generativity) and information sharing (Shaw &

Roberson, 2013). Lehning et al, (2018) found that depending on others for rides was related to restricted participation in informal activities such as visiting friends and family, going out for enjoyment as well as formal activities like attending religious services and participating in organized activities. The women in this study relied primarily on the automobile for transportation, whether they drove or depended on others to drive them. Walking and/or public transit did not entirely meet their transportation needs. So, without driving support from others, these women felt they would lose their ability to remain in their homes (Morrissey, 1998).

Social well-being: Social participation and social support.

Studies looking at the effect of social well-being captured different aspects; some measured social participation and others measured social support. Not surprisingly, results in relation to mobility differed. Several studies looking at social support all studied women; however, each explored social support in different ways (Adler, et al, 2005; Johnson, 2008; Morrissey, 1998). They all identified the necessity of social support, specifically transportation assistance, to maintain social interactions, and mental health (Adler, 2005), to maintain driving cessation (Johnson, 2018) and age-in-place (Morrissey, 1998).

Alternatively, the majority of studies captured social well-being with measures of social participation. Studies found lower social participation among those with higher levels of mobility impairment (Szanton et al, 2016) and disability (Mendes de Leon, et al, 2003; Ostir, et al, 2007; Rosso) regardless of depression symptoms (Ostir, et al, 2007). Studies that looked at transportation, as opposed to physical mobility, found that visiting with friends and family was the most valued activity (Parisi, et al, 2017, Pristavec, 2018). Further, those who depended on others for rides experienced restrictions in their social participation (Lehning, et al, 2018; Pristavec, 2018; Shaw & Roberson, 2013), particularly those with economic vulnerability

(Pristavec, 2018) and those with probable dementia (Parisi, et al, 2017). Therefore, we see an overlap of measures. Transportation assistance was revealed as an important aspect of social well-being whether studies captured aspects of social support or social participation.

Social environments: Neighborhoods & other places. Multiple studies investigated the social environment and its relationship to mobility including the neighborhood and the importance of place (Brown, et al, 2011; Burnett & Lucas, 2010; Latham & Clarke, 2018; Scharlach & Sanchez, 2011; Shaw & Roberson, 2013). The neighborhood social environment was investigated in different ways with measures capturing aspects of social cohesion such as supportive acts of neighboring, neighborhood attachment, neighbor annoyance, informal social ties (Brown, et al, 2011), knowing each other, willingness to help each other, and level of trust (Latham & Clarke, 2018). In a longitudinal study of neighborhood environment and walking behavior among Hispanic older adults, younger individuals and women were found to walk less than their counterparts. At follow-up, higher levels of social cohesion (or neighborliness) predicted an increase in walking behavior (Brown, et al, 2011). High levels of both neighborhood disorder (presence of litter/trash on sidewalks, graffiti on walls, and vacant homes) and low neighborhood social cohesion, contributed to lower social participation (Latham & Clarke, 2018). Those who perceived low social cohesion or neighborhood disorder were also less likely to participate in organized activities such as religious activities compared to their counterparts (Latham & Clarke, 2018).

The neighborhood environment was identified as related to isolation (Scharlach & Sanchez, 2011) and social connectivity (Burnett & Lucas, 2010; Shaw & Roberson, 2013). For older Hispanic or Latino populations, in addition to social and cultural dislocation, environmental factors such as fear of crime and fear of immigration authorities were identified as

a barrier to people's ability to be social (Scharlach & Sanchez, 2011). The importance of place was also identified as central to social well-being. For older retirees without hearing, feelings of social connectivity loss were related to lower use of traditional community meeting places such as schools for the deaf and community centers (Shaw & Roberson, 2013). A senior center facilitated both unplanned and planned social interactions on their way to and surrounding the center. For example, participants spontaneously interacted with those taking similar routes to the center, as well as in the lobby of the center before planned activities (Burnett & Lucas, 2010).

Discussion

In reviewing the results of this literature review, a modified version of the Ecological Model (Brofenbrenner, 1994) was used as a framework for understanding the current state of knowledge on social well-being and mobility among community-dwelling older women. The model proposes that an individual's functioning is dependent on the relationships between a series of nested sub-systems, namely the *micro, exo* and *macro,* and *meso* systems (see Figure 3 below). The individual resides at the center and embodies certain characteristics such as health, gender, and income. The subsequent concentric circle, the *micro* system, includes the immediate environment such as family, friends, and their neighborhood. Beyond this circle is the *exo* system with aspects slightly removed from the individual, for example, the extended neighborhood or city, and organizations. The outermost ring is the *macro* system which are the social and cultural systems and values of society including political and economic systems. Importantly, the model posits that an individual's well-being is further dependent on the relationships within and between these systems (*meso* system) (Brofenbrenner, 1994).

Using the model, individual factors are revealed to independently influence mobility and social well-being; however, most importantly the model also highlights the significance of the

meso system, the interplay between systems. Specifically, results demonstrate the relationship between individual characteristics and the *micro* system, and individual characteristics and the *exo* system.

Individual factors.

When looking at these interacting systems in relation to older adult social well-being and mobility, numerous individual factors were identified. Almost everywhere in the world, including the U.S., women live longer than men and are more likely to experience serious illness and have comorbidities later in life, which adversely affect their quality of life (Byles et al., 2010; Crawley, 2008; European Commission, 2014). Therefore, it was unsurprising that health had an impact on mobility and social well-being. Older women drivers with functional impairments and multiple health conditions are more likely to regulate and cease driving compared to older men, who objectively have more problems with their health or driving skills (Foley, Heimovitz, Guralnik, & Brock, 2002; Forrest et al, 1997; Stutts, 2003). Declines in women's physical health and mobility impairment contributed to decreases in their overall mobility. Additionally, these declines were found to decrease their ability to participate in social activities for both men and women (Brown, et al, 2011; Johnson, 2008; Rosso, et al, 2013). Economic challenges were also found to be associated with transportation and social activity restrictions (Lehning, et al, 2018). However, this is particularly relevant for women who are more likely to live in poverty compared to men, particularly in older age (Ní Léime, Duvvury, & Callan, 2015). This is in part due to a lifetime of income inequality (Browne, 1998; Moen, 2001), but also related to increased health costs as a result of higher rates of disease, physician visits, and prescription drug costs because of women's longer life expectancy (Calasanti & Slevin, 2001). Economic vulnerability appeared to moderate the association between transportation

mode and social activity restrictions for older adults overall; however, significant differences in gender were not found (Lehning, et al, 2018). These studies suggest that the relationship between transportation and social activities for women is more complex. For example, a qualitative study of older women identified a combination of income and social support as barriers among women, but this depended on the value they placed on maintaining independence (Morrissey, 1998). Though these quantitative studies investigated race/ethnicity, notably missing were any significant findings in regard to social well-being and mobility. Such relationships are important to consider given previously established links between health (Farmer & Ferraro, 2005; Hummer, 1996; Krieger, 2012; National Center for Health Statistics, 2016), income inequities (National Council on Aging [NCOA], n.d.; US Census, 2019), and lack of public transportation access (National Council on Aging [NCOA], n.d.). However, qualitative studies with significant samples of ethnic minorities do imply such differences (eg. Countouris, et al, 2014; Scharlach & Sanchez, 2011).

In most studies, depression was used as a control variable. However, its association with functional limitations may be more complex. In a study of the interactive effect of depression and mobility among older women, physical disability was found to have a bigger effect on social participation than depression (Ostir, et al, 2007). Past reports suggest a complex association between depressive symptoms and functional limitations: depression predicts poor physical function, and poor physical function predicts depression causing a decrease in older adult health (Von Korff, Ormel, Katon, & Lin, 1992; Ormel et al., 1993; Penninx et al., 1998). This mutually reinforcing relationship is true in both cross-sectional and longitudinal studies. However, the specific causal ordering between the two factors is often difficult to disentangle (Covinsky et al., 1997; Penninx et al., 1998).

Individual factors have their own effect on social well-being and mobility. In terms of the various systems, the results of this literature review were most commonly represented within the *meso* system; specifically, the connections between individual factors and *micro,* the *exo* and the *macro* system. First, individual factors such as mobility restrictions interacted with *micro* system factors such as family social support. Second, health and economic status also interacted with the *exo* system factors such as public transit as well as the neighborhood environment. Lastly, gender roles also contributed to older women's mobility and social well-being (see Figure 3).

Meso system: Individual factors and the micro system.

Despite living longer with poorer health, lower incomes, and higher rates of self-regulating driving behavior, women were more likely to participate in social activities as a whole, particularly visiting friends and family when compared to men (Pristavec, et al, 2018). Older women were also more likely to participate in formal activities such as religious services or clubs (Pristavec, et al, 2018); however, they also claimed more mobility restrictions (driving, rides from others, public transit, or walking) in participating in such activities (Latham & Clarke, 2011). It may be that women prioritize such activities and or receive more social support from friends and family for these activities. Individual factors such as mobility difficulties among older adult African American women interacted with public transportation accessibility particularly when transit routes were cut or changed (Countouris, et al, 2014); however, studies included in this literature review did not focus on public transit. When public transit was included as a transportation option in relation to social participation, it was not found to be statistically significant. This is likely due to public transit not being a common form of transportation for older adults (Kostyniuk & Shope, 2003; Rosenbloom, & Herbel, 2009) or that older women may instead prefer receiving a ride from others when participating in social

activities (Bryanton, Weeks, & Lees, 2010). Further, these studies did not differentiate between rural, suburban, and urban areas, which is significant as public transit is more likely to be more available in urban areas (Schwanen et al., 2001, Siren & Hakamies-Blomqvist, 2004). In addition, the studies included in this literature review rarely assessed the neighborhood environment where public transit would be accessed. The most common barriers to walking and using public transport are related to the built environment such as uneven pavements, high curbs, as well as fear of others (Nordbakke, 2013), and these are important factors to capture.

Meso system: Individual factors and the exo system.

Individual factors were also important when considering the neighborhood such as personal evaluations of the disorder and cohesion. When high levels of both neighborhood disorder (presence of litter/trash on sidewalks, graffiti on walls, and vacant homes) and low neighborhood social cohesion existed, social participation was lower (Latham & Clarke, 2018) as was walking behavior (Brown, et al, 2011). Though gender was not a significant factor in either study, the various ways in which social cohesion and disorder were measured may not have captured aspects of importance for older women. For example, safety may be additionally important to women. Scant evidence exists for establishing solid links between specific neighborhood safety factors and health-related outcomes. Exploration of the connection between neighborhood environments and the social well-being of older adults may be insightful, particularly for older adult women.

In addition to neighborhoods, places to be social also appear to be important for older adults, as was highlighted in qualitative studies, which focused on specific older adult sub-populations including senior center participants (Burnett & Lucas, 2010), deaf retirees (Shaw & Roberson, 2013) and African American women (Countouris, et al, 2014). Participants identified

the importance of places to be social as well as the challenges they faced regarding access to them. For one group, the hospital cafeteria was identified as a place where spontaneous social interactions occurred while resting and waiting for doctor's appointments (Countrouis, et al, 2014). For others, social connections were planned such as those who participated in organized activities at senior centers (Burnett & Lucas, 2010), and intergenerational connectivity at schools for the deaf (Shaw & Roberson, 2013). 'Third places', such as public open spaces like children's playgrounds, urban squares or parks, and indoor areas, such as cafes, restaurants are also important social spaces. Identified by Oldenburg (1989), third places serve as locations in which people can meet with others and start socializing (as opposed to work or home). He argued the importance of such places for older adults, as it facilitates their social life and provides them with opportunities to keep in touch with others (Oldenburg 1989, 1997). Some studies support Oldenburg's argument highlighting the significance of restaurants as naturally occurring social places for older adults (Cheang, 2002; Rosenbaum, 2006).

Meso system: Individual factors and the macro system.

Findings from this literature review were also represented when individual factors interacted with the *macro* system. Gender roles, for example, played a significant role in driving behavior. Women drivers who lived with a non-driver, typically a spouse, had substantially reduced levels of social interaction, social functioning, tangible support, mental health, and a lower total number of family and friends. This is likely due to having less time to attend to individual needs after attending to their spouses (Adler, et al, 2005). Women often assume emotional and practical support roles for family and friends, so their burden may have a more influential effect on mental health despite social interactions (Seeman, 2000). Furthermore, time

spent caring for others might reduce the amount of time available for social activities and may eventually result in a smaller social network over time.

In summary, individual factors independently affect social well-being and mobility. In addition, the Ecological Model allows us to understand how the *meso* system and the relationships within and between these systems impact older women's social well-being. It specifically highlights the interplay between individual factors and the *micro* system, the *exo* system, and the *macro* system.

Figure 3: *Levels of influence within the Social–Ecological Model. (Modified)*

Limitations

One limitation is the small number of studies did not allow for examination of specific sub-groups of women such as by race/ethnicity, geographic location (urban/suburban/rural), or by age group. Another limitation is the lack of dual reviewers; this may have resulted in missed articles. The detailed documentation of the review processes might offset this limitation, however. The method used for this literature review may be considered inferior to the systematic meta-analysis or 'gold' standard for literature reviews to provide conclusions from the literature to inform teaching, practice, and research. This inquiry did not follow the Cochrane Collaboration methods for systematic literature reviews for the following reasons: First, in some ways, the area of inquiry remains underdeveloped and inconsistent as demonstrated by definitions of key terms which continue to fluctuate and vary across disciplines. Second, ambiguity exists across philosophical approaches to research. Qualitative and mixed-methods studies may suggest relationships and dynamic processes, despite the lack of clear definitions for social well-being.

Conclusion

The number of studies on the intersection of social well-being and mobility among older adult women was limited, thus, limiting any definitive conclusions. However, the Ecological Model provided a lens as to what is currently known regarding mobility and social well-being and suggests directions for further research.

This literature review draws attention to the *meso* system as the most significant area for older adult women regarding mobility and social well-being. The intersections highlighted were 1) individual characteristics (health, gender, mobility disability, financial status, depression) with the *micro* system (social support), 2) individual perceptions of neighborhood cohesion and

disorder with the *exo* system (neighborhood [both built and social], public transit, third places). Finally, this review calls attention to 3) gender (as an individual characteristic) and its intersection with the *macro* system, which highlights the palpable influence of gender roles in older women's mobility and social well-being.

Additional findings were the lack of research specifically on older women's social well-being in the context of mobility and the lack of specificity between rural, suburban and urban areas in national studies, as well as some regional studies. Differences in the environment have significant effects on mobility. For example, the increased availability of public transportation and the distance between residences and health care in urban compared to rural areas. Future studies of older adult social well-being should consider the transportation options and neighborhood walkability in rural, suburban and urban areas. Finally, though neighborhood factors such as social cohesion and disorder were addressed, future research needs to address perceptions of safety in the built environment in terms of crime, traffic danger, and fear of falling particularly for older adult women.

References

Adams, K. B., Leibbrandt, S., & Moon, H. (2011). A critical review of the literature on social and leisure activity and wellbeing in later life. *Ageing & Society*, *31*(4), 683-712.

Adler, G., Rottunda, S., Bauer, M., & Kuskowski, M. (2005). Older Women Drivers: The Influence of Age, Marital Status, Health, and Social Support. Clinical Gerontologist: The Journal of Aging and Mental Health, 29(1), 39-51.

Anderson, N. D., Damianakis, T., Kröger, E., Wagner, L. M., Dawson, D. R., Binns, M. A., ... & Cook, S. L. (2014). The benefits associated with volunteering among seniors: a critical review and recommendations for future research. *Psychological bulletin*, *140*(6), 1505.

Bath PA, Deeg DJ. (2005) Social engagement and health outcomes among older people: introduction to a special section. Eur J Ageing. 2:24–30.

Berkman LF, Syme SL. (1979). Social networks, host resistance, and mortality: a nine-year follow-up study of Alameda County residents. *Am J Epidemiol*. 109(2):186-204.

Berkman LF.(1995) The role of social relations in health promotion. Psychosomn Med.57: 245-4

Berkman LF, Glass T, Brissette I, Seeman TE. From social integration to health: Durkheim in the new millennium. Soc Sci Med. 2000;51(6):843–57.

Bourdeau I, Desrosiers J, Gosselin S. (2008) Predictors of reintegration to normal living in older adults discharged from an intensive rehabilitation program. Int J Rehabil Res. 31:267–74.

Bowling A, Gabriel Z. An international model of quality of life in older age. Results from the ESRC? MRC HSRC quality of life survey in Britain. Soc Indic Res 2004;69:1–36

Brach JS, VanSwearingen JM. (2002) Physical impairment and disability: relationship to performance of activities of daily living in community-dwelling older men. Phys Ther. 82(8):752–61.

Bryanton, O., Weeks, L. E., & Lees, J. M. (2010). Supporting older women in the transition to driving cessation. Activities, Adaptation & Aging, 34(3), 181-195.

Brown, S. C., Huang, S., Perrino, T., Surio, P., Borges-Garcia, R., Flavin, K., . . . Szapocznik, J. (2011). The Relationship of Perceived Neighborhood Social Climate to Walking in Hispanic Older Adults: A Longitudinal, Cross-Lagged Panel Analysis. Journal of Aging & Health, 23(8), 1325-1351. doi:10.1177/0898264311418502

Burnett, P., & Lucas, S. (2010). Talking, walking, riding and driving: The mobilities of older adults. Journal of Transport Geography, 18(5), 596-602.

Cattan M, White M, Bond J, et al. (2013) Preventing social isolation and loneliness among older people: A systematic review of health promotion interventions. Ageing Soc 2005;41–67.

Chen Y, Feeley TH. Social support, social strain, loneliness, and well-being among older adults: An analysis of the Health and Retirement Study. Journal of Social and Personal Relationships. 1–21.

Chihuri, S., Mielenz, T. J., DiMaggio, C. J., Betz, M. E., DiGuiseppi, C., Jones, V. C., & Li, G. (2016). Driving cessation and health outcomes in older adults. Journal of the American Geriatrics Society, 64(2), 332-341.

Cohen S (2004) Social relationships and health. *Am Psychol.* Nov; 59(8):676-684.

Cohen-Mansfield, J., & Parpura-Gill, A. (2007). Loneliness in older persons: A theoretical model and empirical findings. International Psychogeriatrics, 19(2), 279-294.

Countouris, M., Gilmore, S., & Yonas, M. (2014). Exploring the impact of a community hospital closure on older adults: A focus group study. Health & Place, 26, 143-148.

Clarke PJ, Black SE, Badley EM, Lawrence JM, Williams JI. (1999) Handicap in stroke survivors. Disabil Rehabil. 21(3):116–23.

D'Alisa S, Baudo S, Mauro A, Miscio G. (2005) How does stroke restrict participation in long-term post-stroke survivors? Acta Neurol Scand. 112(3):157–62.

De Haan R, Horn J, Limburg M, Van Der Meulen J, Bossuyt P. (1993) A comparison of five stroke scales with measures of disability, handicap, and quality of life. Stroke.1178–81.

Desrosiers J, Robichaud L, Demers L, Gelinas I, Noreau L, Durand D. (2009) Comparison and correlates of participation in older adults without disabilities. Arch Gerontol Geriatr. 49:397–403.

Desrosiers J, Noreau L, Rochette A. Social participation of older adults in Quebec. Aging Clinical and Experimental Research. 2004;16:406–12.

Everard KM, Lach HW, Fisher EB, Baum MC. (2000) Relationship of activity and social support to the functional health of older adults. J Gerontol B Psychol Sci Soc Sci.55(4):S208–12.

Farmer M. M., & Ferraro K. F. (2005). Are racial disparities in health conditional on socioeconomic status? Social Science and Medicine, 60, 191–204

Hamzat TK, Kobiri A. (2008) Effects of walking with a cane on balance and social participation among community-dwelling post-stroke individuals. Eur J Phys Rehab Med. 44:121–6.

Hanson, D., & Emlet, C. A. (2006). Assessing a Community's Elder Friendliness: A Case Example of The AdvantAge Initiative. Family & Community Health: The Journal of Health Promotion & Maintenance, 29(4), 266-278.

Hao, Y. (2008). Productive activities and psychological well-being among older adults. *The Journals of Gerontology Series B: Psychological Sciences & Social Sciences, 63,* S64-72.

Harwood RH, Gompertz P, Ebrahim S. (1994) Handicap one year after a stroke: validity of a new scale. J Neurol Neurosurg Psychiatry.57(7):825–9.

Hummer R. A. (1996). Black-White differences in health and mortality. Sociological Quarterly, 37, 105–125

Jette AM, Keysor J, Coster W, Ni P, Haley S. (2005) Beyond function: predicting participation in a rehabilitation cohort. Arch Phys Med Rehabil.86(11):2087–94.

Johnson, J. (2008). Informal Social Support Networks and the Maintenance of Voluntary Driving Cessation By Older Rural Women. Journal of Community Health Nursing, 25(2), 65-72.

Krieger N. (2012). Methods for the scientific study of discrimination and health: An ecosocial approach. American Journal of Public Health, 102, 936–945

Latham, K., & Clarke, P. J. (2018). Neighborhood Disorder, Perceived Social Cohesion, and Social Participation Among Older Americans: Findings From the National Health & Aging Trends Study. Journal of Aging & Health, 30(1), 3-26.

Lehning, A., Kim, K., Smith, R., & Choi, M. (2018). Does economic vulnerability moderate the association between transportation mode and social activity restrictions in later life?. Ageing & Society, 38(10), 2041-2060.

Levasseur M, Desrosiers J, St-Cyr Tribble D. (2008) Do quality of life, participation and environment of older adults differ according to level of activity? Health and Quality of Life Outcomes.;6:30.

Mendes de Leon, C. F. M., Glass, T. A., & Berkman, L. F. (2003). Social engagement and disability in a community population of older adults - The New Haven EPESE. American Journal of Epidemiology, 157(7), 633-642. doi:10.1093/aje/kwg028

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Prisma Group. (2009). Reprint—preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. Physical therapy, 89(9), 873-880.

Morrissey, S. (1998). Resources and characteristics of elderly women who live alone. Health Care for Women International, 19(5), 411-421.

National Council on Aging [NCOA] Economic Security: Fact Sheet, n.d. Retrieved from: https://www.ncoa.org/news/resources-for-reporters/get-the-facts/economic-security-facts/

National Center for Health Statistics (2016). Health, United States, 2015: With special feature on racial and ethnic health disparities. Hyattsville, MD: National Center for Health Statistics.

Nordbakke, S. (2013). Capabilities for mobility among urban older women: barriers, strategies and options. Journal of Transport Geography, 26, 166-174.

Ostir, G. V., Ottenbacher, K. J., Fried, L. P., & Guralnik, J. M. (2007). The effect of depressive symptoms on the association between functional status and social participation. Social Indicators Research, 80(2), 379-392. doi:http://dx.doi.org/10.1007/s11205-005-6189-9

Parisi, J. M., Roberts, L., Szanton, S. L., & Hodgson, N. A. (2017). Valued Activities among Individuals with and without Cognitive Impairments: Findings from the National Health and Aging Trends Study. Gerontologist, 57(2), 309-318. doi:10.1093/geront/gnv144

Pristavec, T. (2018). Social Participation in Later Years: The Role of Driving Mobility. Journals of Gerontology Series B: Psychological Sciences & Social Sciences, 73(8), 1457-1469.

Rimmer JH, Riley B, Wang E, Rauworth A. (2005) Accessibility of health clubs for people with mobility disabilities and visual impairments. Am J Public Health. 95(11):2022–8.

Rittner, B., & Kirk, A. B. (1995). Health Care and Public Transportation Use by Poor and Frail Elderly People. Social Work, 40(3), 365-373.

Rochette A, Desrosiers J, Noreau L. (2001) Association between personal and environmental factors and the occurrence of handicap situations following a stroke. Disabil Rehabil. 23(13):559–69.

Rosso, A. L., Taylor, J. A., Tabb, L. P., & Michael, Y. L. (2013). Mobility, disability, and social engagement in older adults. Journal of Aging and Health, 25(4), 617-637.

Rosenbloom, S., & Herbel, S. (2009). The safety and mobility patterns of older women: do current patterns foretell the future?. Public Works Management & Policy, 13(4), 338-353.

Scharlach, A. E., & Sanchez, E. (2011). From Interviewers to Friendly Visitors: Bridging Research and Practice to Meet the Needs of Low-Income Latino Seniors. Journal of Gerontological Social Work, 54(1), 73-91.

Shaw, S., & Roberson, L. (2013). Social connectedness of deaf retirees. Educational Gerontology, 39(10), 750-760.

Smith, J. M. (2012). Toward a better understanding of loneliness in community-dwelling older adults. The Journal of Psychology: Interdisciplinary and Applied, 146(3), 293-311.

Sturm JW, Dewey HM, Donnan GA, Macdonell RA, McNeil JJ, Thrift AG. (2002) Handicap after stroke: how does it relate to disability, perception of recovery, and stroke subtype?: the North East Melbourne Stroke Incidence Study (NEMESIS). Stroke. 33(3):762–8.

Szanton, S. L., Roberts, L., Leff, B., Walker, J. L., Seplaki, C. L., Soones, T., . . . Ornstein, K. A. (2016). Home but still engaged: Participation in social activities among the homebound. Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care & Rehabilitation, 25(8), 1913-1920.

Uchino BN, Cacioppo JT, Kiecolt-Glaser JK. (1996) *Psychol Bull*. May; 119(3):488-531.

U.S. Census Bureau. (2019). U.S. poverty report. Retrieved from https://www.census.gov/library/publications/2019/demo/p60-266.html

Verdonschot MML, de Witte LP, Reichrath E, Buntinx WHE, Curfs LMG. (2009) Impact of environmental factors on community participation of persons with an intellectual disability: a systematic review. J Intellect Disabil Res. 53(1):54–64.

Waite, L. "Social Well-Being and Health in the Older Population: Moving beyond Social Relationships", in National Academies of Sciences, Engineering, and Medicine. *Future Directions for the Demography of Aging: Proceedings of a Workshop*. Washington, DC: The National Academies Press.

Webber SC, Porter MM, Menec VH. (2010) Mobility in older adults: a comprehensive framework. The Gerontologist. 50(4):443–50.

Wilkie R, Peat G, Thomas E, Croft P. (2007) Factors associated with participation restriction in community-dwelling adults aged 50 years and over. Qual Life Res.16(7):1147–56.

Zunzunegui MV, Alvarado BE, Del Ser T, Otero (2003) A. Social networks, social integration, and social engagement determine cognitive decline in community-dwelling Spanish older adults. J Gerontol B Psychol Sci Soc Sci. 58(2):S93–S100.

Appendix A: Manuscript I - Databases and Search Terms

Sociological Service Abstracts
Parameters: English, 1990-2018, Scholarly Journals

((AB(elderly OR aging OR “older adult” OR “senior citizen” OR gerontology OR geriatrics OR “older people”) OR TI(elderly OR aging OR “older adult” OR “senior citizen” OR gerontology OR geriatrics OR “older people”) OR SU(Gerontology OR Geriatric)) AND (AB(“public transit” OR transportation OR automobile* OR mobility) OR TI(“public transit” OR transportation OR automobile* OR mobility) OR SU(Transportation or "Public Transportation")) AND (AB(loneliness OR “social isolation” OR “social health” OR “social interaction” OR “social behavior” OR “social support”) OR TI(loneliness OR “social isolation” OR “social health” OR “social interaction” OR “social behavior” OR “social support”) OR SU("social isolation" OR loneliness))) NOT ("Occupational mobility" OR "Geographic mobility" OR "Upward mobility" OR "Residential mobility" OR "Social mobility")

Psych Info
Parameters: English, 1990-2018, Scholarly Journals, Age Groups: Adults (18+), Older Adults 65+, & Very old 85+

((AB(elderly OR aging OR "older adult" OR "senior citizen" OR gerontology OR geriatrics OR "older people") OR TI(elderly OR aging OR "older adult" OR "senior citizen" OR gerontology OR geriatrics OR "older people") OR SU(Gerontology OR Geriatrics OR Aging OR "Aging in Place")) AND (AB("public transit" OR transportation OR automobile* OR mobility) OR TI("public transit" OR transportation OR automobile* OR mobility) OR SU(Transportation OR "Public Transportation" OR "Geographic Mobility" OR "Physical Mobility")) AND (AB(loneliness OR "social isolation" OR "social health" OR "social interaction" OR "social behavior" OR "social support") OR TI(loneliness OR "social isolation" OR "social health" OR "social interaction" OR "social behavior" OR "social support") OR SU("social support" OR "social support Network" OR "Social Interaction" OR "Social Networks"))) NOT ("Occupational mobility" OR "Upward mobility" OR "Residential mobility" OR "Social mobility")

PAIS
Parameters: English, 1990-2018

((AB(elderly OR aging OR "older adult" OR "senior citizen" OR gerontology OR geriatrics OR "older people") OR TI(elderly OR aging OR "older adult" OR "senior citizen" OR gerontology OR geriatrics OR "older people") OR SU(Elderly OR Gerontology OR Geriatrics)) AND (AB("public transit" OR transportation OR automobile* OR mobility OR walk* OR neighborhood* OR "built environment" OR "urban plan*") OR TI("public transit" OR transportation OR automobile* OR mobility OR walk* OR neighborhood* OR "built environment" OR "urban plan*") OR SU(Transportation OR "Public Transportation" OR Walking OR Neighborhood* OR "Built Environment" OR "Urban Planning")) AND (AB(loneliness OR "social isolation" OR "social health" OR "social interaction" OR "social

behavior" OR "social support") OR TI(loneliness OR "social isolation" OR "social health" OR "social interaction" OR "social behavior" OR "social support") OR SU("Social Isolation" OR "Social Environment"))) NOT ("Occupational mobility" OR "Upward mobility" OR "Residential mobility" OR "Social mobility")

Academic Search Complete
Parameters: English, 1990-2018

(((AB(elderly OR aging OR "older adult" OR "senior citizen" OR gerontology OR geriatrics OR "older people") OR TI(elderly OR aging OR "older adult" OR "senior citizen" OR gerontology OR geriatrics OR "older people") OR SU('Older People')) AND (AB("public transit" OR transportation OR automobile* OR mobility OR walk* OR neighborhood* OR "built environment" OR "urban plan*") OR TI("public transit" OR transportation OR automobile* OR mobility OR walk* OR neighborhood* OR "built environment" OR "urban plan*") OR SU("TRANSPORTATION & society" OR "URBAN transportation" OR Transportation OR "Bus transportation" OR "choice of transportation" OR walkability OR "MOBILITY of older people")) AND (AB(loneliness OR "social isolation" OR "social health" OR "social interaction" OR "social behavior" OR "social support") OR TI(loneliness OR "social isolation" OR "social health" OR "social interaction" OR "social behavior" OR "social support") OR SU("LONELINESS in old age" OR "SOCIAL isolation" OR "SOCIAL participation")))) NOT (("Occupational mobility" OR "Upward mobility" OR "Residential mobility" OR "Social mobility"))

PubMed
Parameters: English, 1990-2018

((((((("social isolation"[Title/Abstract] OR "loneliness"[Title/Abstract])) AND (paratransit*[Title/Abstract] OR “public trans*”[Title/Abstract] OR ride*shar*[Title/Abstract] OR transportation[Title/Abstract] OR automobile*[Title/Abstract] OR mobility[Title/Abstract] OR walk*[Title/Abstract] OR neighborhood*[Title/Abstract] OR "built environment"[Title/Abstract] OR "urban plan*"[Title/Abstract] OR walk*[Title/Abstract])) AND (elderly[Title/Abstract] OR aging[Title/Abstract] OR "older adult"[Title/Abstract] OR "senior citizen"[Title/Abstract] OR gerontology[Title/Abstract] OR geriatrics[Title/Abstract] OR "older people"[Title/Abstract])) AND ("1990/01/01"[PDat] : "2018/12/31"[PDat]))

CINAHL
Parameters: English, 1990-2018, Academic Journals

(((AB(elderly OR aging OR "older adult" OR "senior citizen" OR gerontology OR geriatrics OR "older people") OR TI(elderly OR aging OR "older adult" OR "senior citizen" OR gerontology OR geriatrics OR "older people") OR MJ("Aged" OR "Aging")) AND (AB("public transit" OR transportation OR automobile* OR mobility OR walk* OR neighborhood* OR "built environment" OR "urban plan*") OR TI("public transit" OR transportation OR automobile* OR mobility OR walk* OR neighborhood* OR "built environment" OR "urban plan*") OR SU("Transportation In Old Age" OR "Transportation -- Utilization" OR "Activities of Daily Living")) AND (AB(loneliness OR "social isolation" OR "social health" OR "social interaction"

OR "social behavior" OR "social support") OR TI(loneliness OR "social isolation" OR "social health" OR "social interaction" OR "social behavior" OR "social support") OR SU("Social Environment" OR "social isolation" OR "Loneliness -- Evaluation -- In Old Age" OR "Aging -- Psychosocial Factors")))) NOT (("Occupational mobility" OR "Upward mobility" OR "Residential mobility" OR "Social mobility"))

Web of Science
Parameters English, 1990-2018

TOPIC: ("social isolation" OR "social health" OR "lonel*" OR "social support") *AND* TOPIC: ("older adult" OR senior OR Elder* OR Aging OR "Old age" OR "older pe*" OR "senior citizen" OR "aging in place") *AND* TOPIC: (transport* OR travel* OR mobil* OR paratransit* OR "public trans*" OR transit OR "ride*shar*" OR taxi OR cab OR "way finding" OR "last mile" OR "first mile") *AND* LANGUAGE: (English)
Refined by: DOCUMENT TYPES: (ARTICLE OR BOOK CHAPTER)
Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1990-2018

Business Source Complete
Parameters: English, 1990-2018

(((AB(elderly OR aging OR "older adult" OR "senior citizen" OR gerontology OR geriatrics OR "older people") OR TI(elderly OR aging OR "older adult" OR "senior citizen" OR gerontology OR geriatrics OR "older people") OR SU('Older People')) AND (AB("public trans*" OR transportation OR automobile OR mobility OR walk* OR neighborhood* OR "built environment" OR "urban plan*") OR TI("public trans*" OR transportation OR automobile OR mobility OR walk* OR neighborhood* OR "built environment" OR "urban plan*") OR SU("Transportation" OR "Public Transit")) AND (AB(loneliness OR "social isolation" OR "social health" OR "social interaction" OR "social behavior" OR "social support") OR TI(loneliness OR "social isolation" OR "social health" OR "social interaction" OR "social behavior" OR "social support") OR SU("Social network")))) NOT (("Occupational mobility" OR "Upward mobility" OR "Residential mobility" OR "Social mobility"))

TRID (Transport Research International Documentation)
Parameters: English, 1990-2018

(Elderly OR Aging OR aged OR "Older adult" OR "Senior Citizen" OR Gerontology OR Geriatrics OR "Older People") AND (Loneliness OR "Social isolation" OR "social health" OR "Social Interaction" OR "Mental Health" OR "Social Behavior" OR "Social Support" OR "Social Interaction") NOT ("Occupational mobility" OR "Geographic mobility" OR "Upward mobility" OR "Residential mobility" OR "Social mobility")

Transportation Research Record (Journal)

for [[All loneliness] OR [All "social isolation"] OR [All "social health"] OR [All "social interaction"] OR [All "mental health"] OR [All "social behavior"] OR [All "social support"] OR

[All "social interaction"]] AND [[All elderly] OR [All "older adult"] OR [All "senior citizen"] OR [All gerontology] OR [All geriatrics] OR [All "older people"]] AND NOT [[All "occupational mobility"] OR [All "geographic mobility"] OR [All "upward mobility"] OR [All "residential mobility"] OR [All "social mobility"] OR [All children] OR [All youth]]

EMBASE
Parameters: English only, 1990-2018

('older adult':ti,ab,kw OR eldery:ti,ab,kw OR 'older adults':ti,ab,kw OR 'older people':ti,ab,kw) AND (transportation:ti,ab,kw OR 'built environment':ti,ab,kw OR 'land use':ti,ab,kw OR 'motor vehicle':ti,ab,kw OR 'automobile':ti,ab,kw OR traffic:ti,ab,kw OR walk*:ti,ab,kw OR 'car driving':ti,ab,kw OR 'ride*share':ti,ab,kw OR 'first*mile':ti,ab,kw OR 'last*mile':ti,ab,kw) AND ('social welfare':ti,ab,kw OR 'human activities':ti,ab,kw OR 'social participation':ti,ab,kw OR socialization:ti,ab,kw OR loneliness:ti,ab,kw OR 'social isolation':ti,ab,kw) AND [1990-2018]/py AND [english]/lim

Manuscript II: Diminishing Social Convoys of Older Women: Significance of a Single Contact

Abstract

Introduction: Older women face an increased risk for social isolation because of their longer life expectancy, declines in health status, low socioeconomic status, marginalization/ exclusion, gender inequality and living alone. However, how they experience social life given these risk factors remains unknown. A qualitative inquiry will provide insight into how older women experience their social lives, and how they describe their social well-being.

Methods: Through in-depth individual interviews with 20 community-dwelling older women at risk for social isolation, this qualitative study employed a narrative approach to understanding the experiences and perceptions of their social well-being and possible experiences of social isolation.

Results: Following a narrative format, this study arranged findings into chronologically ordered themes and sub-themes. The Prelude describes early life experiences including personality traits and health. The Present presents influences on current social life including health, friends and family, social services and the impact of the neighborhood. The Resolution discusses evaluations of their current social lives and potential solutions for increasing social contact.

Conclusion: Using the Life Course Perspective and Social Convoy Theory lens, the results of this study underscore the importance of the single social contact whether it be a family member, social service provider or neighbor. Practice and policy implications include a focus on supporting older women at critical points along their life course, such as interactions with health care and social service providers. Implications for research also emerged.

Introduction

Historically, old age has been considered a time of social isolation. The Disengagement Theory proposed that it was beneficial for both older adults and society to gradually withdraw from their social roles and relationships (Cumming & Henry, 1961). However, contemporarily social isolation is viewed as neither an inevitable nor universal aspect of aging. On the contrary, maintaining relationships with others, particularly meaningful ones, is now considered critical for well-being. Unfortunately, older adults face an increased risk of social isolation. Risk factors include age ("young" old, old, and oldest-old), physical and mental health status, ethnic and cultural background, geographic location, socioeconomic status, marginalization /exclusion, oppression and living alone (AARP, 2012). Further, they face an increased risk for social isolation from decreasing economic and social resources, functional and mobility limitations, and loss of family members and changes in family structures (Cornwell, Laumann, Schumm, 2008; Ortiz, 2011). According to a study by the National Council on Aging (2010), an estimated 17% of those 65 years and older in the United States are isolated because they live alone and face one or more of these additional barriers. A formal definition of social isolation is "A state in which the individual lacks a sense of belonging socially, lacks engagement with others, has a minimal number of social contacts, and they are deficient in fulfilling and quality relationships" (Nicholson, 2009, p. 1346). Social isolation has significant consequences for mental and physical health. It is a risk factor for poor health, reduced well-being, mortality (Courtin & Knapp 2015; Patterson & Veenstra, 2010; Steptoe et al., 2013), depression (Courtin & Knapp 2015; Heikkinen & Kauppinen, 2004) and cognitive decline (Courtin & Knapp, 2015; Wilson et al. 2007). Social isolation represents a national public health issue in the United States, which mandates further attention, especially as older adults are living longer (Holt-Lunstad, 2017; Theeke, 2009).

Current investigations of social isolation make a differentiation between objective and subjective isolation.

Objective isolation.

Studies examining objective isolation define it as the objective lack of social contacts and interactions with family members, friends or the wider community (Kaye, 2017; Nicholson, 2009; Sundstrom et al., 2009). A broad range of approaches allow measuring it, such as quantifying the frequency of social contacts, the size of social networks (Johnson, 2008; Mendes de Leon, Glass & Berkman, 2003), recording marital status (Ostir, Ottenbacher, Fried & Guralnik, 2007; Mendes de Leon, Glass & Berkman, 2003) or household composition (Parisi, et al., 2017; Rosso, Taylor, Tabb & Michael, 2013), number of social interactions, and level of social support (Masi, Chen, Hawkley, & Cacioppo, 2011). Objectively socially-isolated individuals exhibit increased morbidity and mortality (Holt-Lunstad, Smith, & Layton, 2010), poor sleep quality (Friedman et al., 2005), and increased risk of cognitive decline (Barnes, Mendes de Leon, Wilson, Bienias, & Evans, 2004). Further, living alone, a risk factor for social isolation, makes older adults vulnerable during emergencies (Gurley et al., 1996). One of the most notable incidences being the devastating 1995 Chicago heatwave where victims were overwhelmingly older White and African American seniors who lived alone (Gurley et al., 1996). Social isolation influenced mortality rates during Hurricane Katrina, where nearly half of those who died were 75 years and older, and Hurricane Sandy, where close to half of those who died were 65 or older (Cornell Chronicle, 2013). Many of the risk factors for objective social isolation overlap with factors that disproportionally expose certain groups to the negative outcomes of natural disasters: being poor, less connected to transportation (Bascetta, 2006; Haq, et al., 2008), and less geographically mobile (Haq, et al., 2008).

Subjective isolation.

Comparatively, much more research exists on subjective social isolation or loneliness. As a consequence, loneliness emerges more clearly and consistently across the literature. Subjective loneliness is defined as negative feelings deriving from either a perceived lack of a social network (social loneliness) or the absence of a specific desired companion or quality of relationships (emotional loneliness) (de Jong Gierveld & Havens, 2004). Like objective social isolation, loneliness has similar deleterious effects such as decreased mobility (Buchman et al., 2010), increased placement in nursing home facilities (Tinetti & Williams, 1997), and increased morbidity and mortality (Hawkley, Preacher, & Cacioppo, 2010; Luo, Hawkley, Waite, & Cacioppo, 2012; Perissinotto, Stijacic, Cenzer, & Covinsky, 2012). Loneliness associates with a number of risk factors, which have been categorized as sociodemographic factors (age, gender, living alone, marital status, financial resources housing tenure, educational level and access to a car), life events (widowhood, divorce, admittance to a care home) and health (functional status, disability, being a caregiver, perceived health, depression onset of illness and cognitive impairment) (de Jong Gierveld, et al., 2009). Cacioppo et al. (2009) conclude that a meaningful social connection is an inherent human need. They posit that loneliness is one of the most significant negative consequences of social isolation (Cacioppo, Fowler, & Christakis, 2009; Cacioppo & Patrick, 2008; Hawkley, Browne, & Cacioppo, 2005; Hawkley et al., 2008).

Gap in research.

In the last 20 years, attention to the prevalence and impact of social isolation on the health and well-being of older adults has increasingly emerged. However, studies looking specifically at the experiences and interpretations of older women who are socially-isolated or at risk remain nascent. Investigating this phenomenon is important because of the growing numbers

of older women and their markedly different lives compared to those of men. Women are more likely to be widowed, poor and live alone (U.S. Census Bureau, 2014 Current Population Survey, Annual Social and Economic Supplement). For example, nearly one third (11.3 million) of community-dwelling older adults in the U.S. live alone, and older women (37 percent) are twice as likely as men (19 percent) to live alone (Margolis & Verdery, 2017). This gender divide increases as living alone increases with age, particularly among women age 75 and over. (Margolis & Verdery, 2017). These risk factors for women also increase the risk of social isolation (de Jong Gierveld et al. 2009). Further, an investigation on the social lives of older women is warranted due to socialization differences based on gender. For example, some research shows that a higher number of social ties may be particularly beneficial for women (Shye, Mullooly, Freeborn, & Pope, 1995) compared to men who benefit more from instrumental support such as transportation or housekeeping (Rowe & Kahn, 1998). Additionally, low social support has been associated with higher mortality in older women, but not in comparable older men (Lyyra & Heikkinen, 2006).

Given the lack of knowledge on the social lives of women and their increased risk for social isolation, this qualitative study will help gain an understanding of their social well-being by eliciting the meanings and potential manifestations of social isolation and loneliness.

Research question:

How do older women understand and experience social life and describe their social well-being?

Conceptual Framework

Two models help guide our understanding of the social lives of older women, the Life Course Perspective and the Social Convoy Model. The Life Course Perspective focuses on the

various factors that influence change over the life course including health, historical events, and geographic location (Elder, Johnson, & Crosnoe, 2003). The Social Convoy Model is complementary and highlights the social connections and relationships surrounding an individual across the life course which serve to protect and maintain his/her well-being (Antonucci et al., 2010).

The life course perspective.

The Life Course Perspective, or Life Course Theory, refers to a multidisciplinary paradigm for the study of people's lives, structural contexts, and social change. This perspective focuses on the various changes from birth to death and the factors that influence those changes such as biological, developmental (including social and psychological factors), demographic, social structural, historical, and geographic (Elder, Johnson, & Crosnoe, 2003; Shanahan, 2000). It identifies which factors affect the arc of change, and what transformations those changes bring forth. Some factors involved in moving us along life's path are intrinsic, such as biological factors, other changes are socially constructed and can be attributed to when, where, and how we live, who we are, and where we fit into the social structures in which we are embedded. An important contribution of this model is its focus on individual evaluations or (meaning-making) and reactions to these changes (Elder, Johnson, & Crosnoe, 2003). In other words, we can also reinvent or transform ourselves with each change (Shanahan, 2000). Of course, reinventing or transforming occurs in optimal circumstances and is not always possible for every person (Elder, Johnson, & Crosnoe, 2003). To summarize, the Life Course Perspective helps us explain the differences in the lives of older adults by focusing on the contexts in which they grow old. To fully understand their current lives, one must consider all that preceded it. Therefore, this study

seeks to highlight the influence of history, demographics, social constraints, and the timing of life events on the social lives of older women.

Social convoy model of social relations.

This study is also guided by the Convoy Model of social relations (Antonucci et al., 2010; Kahn & Antonucci, 1980), which recognizes that individuals are embedded within a network of social connections throughout their life course (Antonucci et al, 2013). Conceptually, an individual's network is broken into three concentric circles with the individual at the center. Kahn & Antonucci (1980) described the individual-focused aspect of the model as each person "moving through the life cycle surrounded by a set of people to whom he or she is related to by the giving or receiving of social support" (p. 269). The inner-circle (emotionally strong ties) would include people with whom the central individual "feels so close that it is hard to imagine life without them" (Antonucci, 1986, p.10). The middle circle (weak ties) includes those that the central individual may not feel as close to but who are still important. The outer circle (peripheral ties) is made up of people with whom ties are not strong but are still subjectively important enough that the individual feels they should be placed within the social convoy (Antonucci, 1986). These social connections and relationships that surround an individual serve to protect and maintain his/her well-being as his/her needs change (Antonucci et al., 2009; Bengtson, 2009). Several concepts within the model are useful in capturing the complex nature of these human social relations. In addition to the convoy, the model posits that social relations consist of multiple dimensions, including the structure of the social network, its function, and quality (Antonucci, et al., 2010). This includes the size, composition, geographical proximity, and frequency of contact. Perhaps the most important function of social relationships, particularly when the model is used in gerontological studies, is the provision of support. At its

optimum functioning, social support serves to buffer stress. This support can be instrumental or emotional and evaluated by the individual as adequate or inadequate. Social convoys evolve and develop throughout the lifespan and are also shaped by situational characteristics that remain stable as well as those that change over time (Antonucci, Birditt, & Ajrouch, 2011; Antonucci & Akiyama, 1987). Depending on these factors, different levels and types of social support from the social convoy adjust to meet the demands of specific circumstances experienced by the individual across the life course. Lastly, a central tenant of the Social Convoy Model is that the social relations with individuals' closest members, or core members, are consistently maintained across the life course (Antonucci et al., 1986; Antonucci & Akiyama, 1987; Bengtson, 2009).

Taken together, the Life Course Perspective and Social Convoy model help explain diversity in experiences of social life by focusing on the context in which they grow old and the complex nature of social relationships over time.

Methods

Qualitative inquiry seeks to understand the experiences and perceptions of those who experience the phenomenon of interest (Patton, 2002). This study takes a narrative approach to understand social well-being and descriptions of possible experiences of social isolation of older women. 'Narrative', is broadly defined as the telling of a story, derived from the Latin '*narre',* to make known, or convey information (e.g. Berger 1997; Lacey 2000). A narrative presents information as a sequence of connected events, having some kind of thematic or structural (usually temporal) coherence: this happened and then this related event happened (Labov 1972). Narrative analysis addresses the challenge of interpreting and understanding layers of meaning in interview talk and the connections among them (Wiles, Rosenberg & Kearns, 2005). It has

helped to interpret the conversation or story of older women's social lives with attention to the embedded meanings and evaluations of the participant and their context.

Data collection was accomplished via in-depth interviews. Using an interview guide with broad open-ended questions and sub-questions with probes, participants reflected on their social and physical health, including their accounts, descriptions, and interpretations. The interview guide contained questions about their social lives and possible social isolation (see Appendix B).

Participants.

The criterion for subjects to participate were English speaking, adult women 65 years and older, living alone in the city of Los Angeles who received home-delivered meals. Those age 60 and above are eligible for meals (Meals on Wheels of America, n.d.), however, it is a commonly accepted definition in most nations, including the U.S., that a person is elderly when he/she has reached age 65 (Sanderson & Scherbov, 2008). The minimum age of 65 was also chosen based on its common use in social benefits eligibility, as well as in social research. Participants were interviewed in their homes or in a private location of their choosing. The interview included a few structured demographic questions such as age, race/ethnicity, housing status, marital status, and income level. What if any mobility aid they used was captured via field notes. Descriptions of additional demographic and mobility characteristics of each participant provided deeper insight.

Data collection.

Identifying a population of older women at risk for social isolation is potentially challenging. Organizations providing home-delivered meals helped identify older women at risk for social isolation.

Research site and context. Participants were recruited from two organizations based in southern California who provide home-delivered meals, St. Barnabas Senior Services (SBSS) and St. Vincent Meals on Wheels. SBSS is a non-profit organization founded in 1908 and is the oldest senior service agency in Los Angeles. SBSS participants on average are 75 years old, live alone, have few relatives or friends to provide them assistance, and have low English language proficiency (St. Barnabas Senior Services, n.d.). SBSS provides MOW to those who demonstrate challenges in attaining and or preparing food for themselves. Participants were also recruited from St. Vincent Meals on Wheels. Founded in 1977 by Sister Alice Marie Quinn, it is one of the largest Meals on Wheels program in the United States. St. Vincent prepares and delivers meals to those who are unable to shop or cook for themselves, a large portion of which are seniors living below the poverty level (St. Vincent Meals on Wheels, n.d.). SBSS and St Vincent Meals on Wheels serve older adults living in predominantly urban areas, but also include suburban areas of the city of Los Angeles. Both SBSS and St Vincent Meals on Wheels meal deliveries include a paid employee who operates the delivery vehicle; however, St Vincent Meals on Wheels additionally includes a volunteer who hand-delivers the meal to the recipient's door.

Recruitment and Sampling. Access to potential participants for this study was granted by the Director of Nutrition at SBSS and the Executive Director at St. Vincent Meals on Wheels Los Angeles. The Home Delivery Meals Coordinator at SBSS and the Director of Operations at St. Vincent Meals on Wheels (following the study inclusion criteria) determined eligible participants. Recruitment occurred via face-to-face outreach by the researcher as well as with flyers. The researcher conducted recruitment with eligible participants by accompanying drivers and volunteers on home-delivered meal routes. In total, 56 eligible women were recruited using face-to-face recruitment and informational flyers. Informational flyers were also left with the

delivered meals if they were not present. To be sensitive to the potential for coercion, during recruitment, a script was used stating that participation was completely voluntary and that declining would have no consequences and no effect on receiving services. Of the 56 eligible women, 23 expressed interest in participating and were screened. Twenty interviews were completed. Recruitment and interviews occurred between January – May 2019.

An interview guide with a series of open-ended questions was used (see Appendix B). The overarching question was: How do older women experience their social lives and describe their social well-being? Each participant received a written copy of their interview transcript to verify interview details and validate the accuracy of their experience. Participants mailed back any revisions and/or corrections within two weeks of receipt. Each received an envelope, addressed and with paid postage to return the transcript. They were additionally informed that they may delete or remove any part of the interview they desire. If necessary, second interviews were conducted with participants to verify interview details and accuracy of specific quotes. Wengraf (2001) described this technique as appropriate for eliciting more in-depth biographical narratives.

Epistemological frame. Reality is socially constructed and not constant; reality may change according to the varying meanings it acquires among different individuals (Creswell, 2007). A social constructivist approach understands reality as constructed through the actions and meanings attributed to these actions by participants (Merriam, 2009). When constructing a narrative, Donald Polkinghorne (1988) highlights the need to move beyond "mere events" and towards a story created by the individual which, "reveals how the person punctuates or organizes her world and it, therefore, provides a clue for discovering the basic premises that underlie the person's actions and cognitions" (p.182). While a number of different methods and procedures

exist to access how older women experience social life, narrative methodology, which seeks stories to develop understanding and meaning-making, becomes appropriate. Two benefits include: first, more than one person is capable of 'interpreting' the narrative. Second, a narrative approach centralizes the perspective of the storyteller (Labov, 1972), so women interpret their own stories.

Narrative approach. The purpose of the narrative approach is to explore the structures of consciousness from a first-person point of view. It enables sharing stories from populations who are less often heard (Creswell, 2007). The telling of stories is how one makes sense of experiences, communicates these to others, and understands the world. One constructs knowledge rather than discovers it. Narratives attempt to explain or normalize what has occurred; they present why or how things have become what they are. Methodologies with stories and storytelling may be particularly well-suited to research older populations (Osis & Stout, 2001) and to explore the experiences and meanings of older women's social lives.

Protection of human subjects. Older women at risk for social isolation represent a vulnerable population. Participants understood the benefits and risks of participating in the interview with ample assurance that their identity would be protected through confidentiality. Further, they were aware that they could stop the interview at any time and withdraw from the study at any point. Data were coded and stored in an encrypted, password-protected personal computer. Pseudonyms were used to protect the confidentiality of participants. Any documents containing participant names were destroyed at the end of the study. The UCLA Institutional Review Board reviewed and approved this study.

In total, 20 interviews lasting between 1.5-2 hours each, were audio-recorded and participants received a $20 gift card in appreciation for their time. Though selection bias limits

the validity of the sample for quantitative studies, qualitative inquiries do not require representativeness for generalizability. The purpose here was to identify ‘information-rich cases' (Patton, 2002) to understand the phenomenon in depth conceptually, not to determine what is generally true of ‘the many' (Merriam, 2009).

Data analysis.

This study took a narrative thematic approach to understand the social lives of some older women and their interpretations of them. Each interview was immediately transcribed verbatim after its completion and entered into Atlas.ti 8.1, a qualitative analysis software, which facilitates analyses as well as storage and retrieving of data. Field notes contextualized interview data, verified congruence of verbal and nonverbal communication, and recorded personal reflections; these were additionally entered into Atlas.ti 8.1. All memos and field notes were revisited throughout the analysis and served as audit trails (Patton, 2002).

First, the researcher read the transcripts and corresponding field notes together. Second, transcripts were re-read and boundaries of each story within each interview were demarcated (Bell, 1994). A ‘story’ was operationalized to have an orientation, plot, evaluation, and resolution (Labov & Waletzky, 2003). The story became the unit of analysis. Third, facilitated by previously identified boundaries, the researcher organized the stories into a chronological sequence. The focus was on the participants’ engagement in, understanding of, and feelings about their social life. Fourth, the researcher identified structural elements that were entered into a matrix (an Excel spreadsheet) such as personality traits, economic circumstances, significant social contacts or relationships, and challenges with health and disability. The matrix facilitated comparing and contrasting stories within chronological boundaries — this analysis involved searching for similarities and differences among participants’ stories, which created the themes.

Finally, the matrix was used to identify rich and exemplary data within each theme (Lofland & Lofland, 1995).

A narrative presents information as a sequence of connected events, having some kind of thematic or structural (usually temporal) coherence: this happened and, then, this related event happened (Labov, 1972). However, story sequences did not always occur in order. When called for, the researcher engaged in *restorying* (reorganizing the stories into a chronological sequence) (Creswell & Poth, 2018). Therefore, the researcher reviewed interview transcripts to identify stories that "use the logic of plot to help events cohere into meaningful wholes" (Polkinghorne, 1988, pp. 61-62). These texts created a narrative with causal relationships organized around a plot with a beginning, middle, and end, thus *restoried* into a chronological framework (Creswell & Poth, 2018).

The parameters of narrative analysis can vary (Creswell & Poth, 2018). For this study, the researcher organized stories chronologically across a life that drew on three time-periods: *Prelude, Present,* and *Resolution* and identified themes within each time-period. These units began with the identification of an orientation (the setting or exposition), followed by the complication (also called problem or crisis), an action or action orientation toward a resolution, resulting in the resolution (or occasionally failure).

Rigor and trustworthiness.

Qualitative researchers can follow multiple strategies to enhance rigor and address threats to trustworthiness (Padgett, 1998). Two strategies were employed in this study. One strategy was 'member checking' (Lincoln & Guba, 1985). This involved returning to participants to verify interview details and validate the accuracy of their experience (Creswell, 2007). Each participant received a written copy of their interview transcripts and asked to contact the researcher with any

revisions and/or corrections regarding the transcript's accuracy. When necessary, the researcher contacted participants for a second interview to verify interview details. The second strategy employed to enhance rigor was to maintain an audit trail. Each step taken in data collection and analysis was documented, this record ensures that others can confirm findings (Padgett, 1998). The audit trail included raw data such as field notes, interview transcripts, and memos regarding decisions made during data collection and analysis process. Though audit trails do not allow exact replication, it does enhance reproducibility (Schwandt & Halpern, 1988).

Results

This purposive sample consisted of 20 adult women whose ages ranged from 65-97 with a median age of 72. Just over half were White or Caucasian (11), followed by African American or Black (8), the remaining were Hispanic (3) and one was mixed race, White and African American or Black and American Indian (1). All women lived alone; eight had never been married; six were widows, four were divorced, while one woman was married but separated for more than 30 years. Almost all had a low income: Twelve women had an annual income of $20,000 or less; the annual income of seven women was between $20,000-30,000, and one had an income of $40,000-50,000. Their level of education ranged with just under half (7) having completed high school or had a GED (2). Six women had gone to vocational school or had some college education, and another five had a 4-year college degree.

Table 4 provides further descriptive data related to housing status and mobility. Just over half of the participants (11) lived in a form of low-income housing (Section-8 and Project Based Section-8), approximately a third were renters, and only three owned the property in which they lived. The number of years in their current residence ranged between 1 to 52 years with a median of 25.5 years. In terms of assistive mobility devices, approximately half (9) used a walker, six

used no device, three needed an electric wheelchair (one owned but did not use it), and two used a cane.

Table 4: *Participant Mobility & Housing Status (N=20)*

Drivers	ID	Age	Owns a Car	Drives	Housing Status	Years in current Residence	Assistive Mobility Device
65-74	AT	65	Yes	Yes	Section 8	10	None
	MR	65	No	No	Senior housing (non-subsidized)	10	Cane
	DW	66	No	No	Section 8	14	Walker w/Seat
	PR	66	No	No	Project Based Section 8	32	Electric Wheelchair
	BT	67	No	No	Project Based Section 8	26	Walker/ electric wheelchair*
	NF	69	No	No	Section 8	25	None
	HO	70	No	No	Section 8	8	Walker w/Seat
	PY	70	No	No	Section 8	7	None
	RT	70	No	No	Rent Apartment	30	None
	NE	74	No	No	Section 8	20	Cane
75-84	VC	75	Yes	Yes	Rent Apartment	18	None
	MK	76	No	No	Section 8	22	Walker w/Seat
	KR	77	No	No	Section 8	1	None
	OB	79	No	No	Owns home	39	Walker w/Seat
	LT	82	No	No	Owns Apartment building	49	Electric Wheelchair
	VF	82	Yes	No	Section 8	28	Walker or Cane
85+	DE	88	No	No	Own Home	52	Walker w/Seat
	TG	89	No	No	Rent Apartment	26	Walker w/Seat
	AZ	94	No	No	Rent Apartment	33	Walker or Cane
	TA	97	No	No	Rent Apartment	44	Walker or Cane

The narratives of each participant were arranged chronologically across their life course. Themes that emerged were placed within each of the three phases or time-periods. The first presented or oriented their present life (*Prelude)*. An evaluation of their current life complications or crisis in their social life and their personal reflections (*Present)* followed. Lastly, evaluations of their social lives currently and into the future represented the final time-period (*Resolution*). Themes were identified within each chronological time-period and are presented in Table 5 below.

Table 5. *Organization of Narrative Themes*

Narrative Phase	**Description**	**Themes**
The Prelude	Early Life Experiences – The Ripple Effect	• Immigration & Cultural Expectations • Early Life Experiences with Health • Introverts & Extroverts • Depression - Early Signs & Links to Health
The Present	Current influences on social life	• 'Social' Services • Female Family Members • Friends Who Are Gone – Neighbors Who Are Present • New Places to be Social - Later Life Health
The Resolution	Evaluations of current & future social life	• Solutions for Increasing Contact • Social Needs, Yet Unmet

Prelude: Early life experiences - The ripple effect.

The Prelude provided an orientation to their early life experiences related to their social lives, and how they connect to present situations. The narratives these women shared of their early life experiences help orient our understanding of their present social lives including

experiences such as immigration, major health crises, personality characteristics, and mental health status.

Immigration & cultural expectations. Three women immigrated to the U.S. as adults; due to linguistic and cultural differences, they all felt a sense of exclusion, though to differing degrees. When speaking about their social lives, some expected that family would be their main source of socialization and that friends would exist peripherally. One participant was a homemaker and raised her children, only to later care for her husband until he passed. She shared that she did not expect much socially outside of her family in the U.S.:

> *"I could have more friends Yeah. Like I always had. But the thing is, that was like a faraway [from] here when I was in Hungary...and this is America. We came here in '59, you know, leaving behind, friends and family. That's not easy honey! But I don't expect nothing here. I left…"(DE, 88)*

Though this woman left behind her family and friends, she did create a small community for herself, including at church where she shared her country of origin and language. At this point in her life, most of these friends had passed away, were less mobile or were unable to be as social. However, she was able to continue attending church services and Bible study with the help of her daughter, *"…*[she] *keeps me alive" (DE, 88).*

Expectations for social life in the U.S. were not always as anticipated, however. Following immigration from Peru, one participant expected to live with her sister and find work. She explained that in her culture it was common for single women to remain with family until married. She was prepared to socially integrate herself into her sister's family, but she was shocked to discover their expectation of a short stay.

> *"I did have [sic] 33 years old when I came here but 33 years old in my country is nothing. If you are a single you live all your life until your parents dies [sic], with them. With them!…Like I said I was afraid, very very much!" (VC, 75)*

Within a year of arriving she was living on her own and spent the following 30-plus years working multiple jobs to support herself, which as she reflected, left her no time for making friends. During this time her relationship with her sister also degraded. She expressed that if she had understood what her life would have become, she may not have immigrated.

Early life experiences with health – Different social trajectories. Half of the women shared stories of becoming physically disabled and/or suffering significant health issues that dramatically shaped their lives. Some of these women had lived with serious illness and disability for the majority of their lives such as Fibromyalgia, Lupus or cancer. Managing health challenges and/or disabilities affected their social lives differently. Regardless of disease onset, their lives were shaped by the nature of the disease or disability itself and were colored by the financial consequences and the support they did or did not receive.

For some, early diagnoses meant careers were abruptly terminated followed by suffering from mounting medical bills and/or homelessness, and loss of friends. One participant, diagnosed with Fibromyalgia at 40 years old became unable to continue working 5 years later, which left her feeling lost, *"…You feel rudderless, you know?" (AT, 65).* Eventually, after running out of financial resources and support available from family, she became homeless for a period of time. Unfortunately, financial loss was not the only consequence. Just prior to losing her apartment and car, she opened up to her friends seeking emotional and instrumental support. Unfortunately, they did not support her as she had expected, sharing: *"It's bad enough being homeless and then, to not have friends..." (AT, 65).* Though she attempted to continue a friendship with them after moving into a shelter, they continued to disappoint her:

> *"…I would say, 'Even though I'm living in a shelter, I would still love to see you…I mean, I'm right here in LA. It's not like I'm on some island somewhere…' (AT, 65).*

This experience of losing friends and her support system, along with being homeless was heartbreaking for her. These losses diminished her social network to two family members. Her social circle remained small from that point on.

This participant was not alone in experiencing early life highlighted with disability. Another woman similarly lost her job after suffering a series of strokes in her mid-20's but shared a different life trajectory. After months in a convalescent home, they told her she would never live independently. She was determined to be on her own. She cited her stubbornness as the reason she has been able to live independently. She additionally reflected that she was grateful for her stubbornness. Her reasoning suggested that she might have been institutionalized if she had not been steadfast:

> *"…they tried to put me in a nursing home, but I said 'I'm not going!' Just like Jennifer Hudson in [the movie] Dream Girls, I said 'I am telling you, I'm not going!' (PR, 66)*

After some time and with support from her family, she surprised her doctors when she returned home. With formal assistance through home health aides, paratransit, meals-on-wheels and Section 8 housing, she has lived on her own and maintained an active social life into her 60's. Compared to other participants she had a significant level of social support. Additionally, she was eligible for federally supportive services, which further facilitated her physically and socially active life.

The Social Butterfly versus the Introvert. When participants reflected on their younger years and what their lives once looked like socially, many shared stories of activities they used to enjoy as well as relationships they once had. Activities they loved included reading, dancing, camping, and traveling. Some of these activities they continued to enjoy, but many were no longer possible, particularly those that required higher levels of mobility. In their retrospection,

some proclaimed to be '*introverts'* or '*shy,'* sharing that they continued to identify this way with a preference for solitary activities taking comfort in these activities. Others considered themselves '*outgoing'* or '*social butterflies,'* who continued to be social throughout their lives.

Depression – Early signs & links to health. A few shared a history of major depression for which they were hospitalized, took medication for, or were currently seeing a psychiatrist. Some reported not leaving their homes for months at a time. These women were particularly cognizant of their mental health, stating that they closely monitored themselves for changes in mood and behavior. Others had no formal diagnosis, but shared that they had chosen not to interact or severely limited their interactions with others for periods:

> *"It's some depression that went on, I was in [a] deep depression for a long time, I'm ready to do that [be social] now. I'm ready to get back into life again. Sort of took myself out for a while..." (NE, 74)*

Some revealed no indication of what caused their depression; others linked causes to physical health challenges. Depression as a result of health, mobility limitations, and financial stress also affected their ability to be social. This was particularly true for those with significant diagnoses. One participant shared, *"I do have a history of depression…So, I just have to be careful to watch for the signs of going downhill" (OB, 79).*

These women shared how their social lives were shaped by various factors including their cultural expectations and family history, the onset of disease, their personality, and challenges with health and mental health. As described in the following section, past life experiences and situations influenced current life challenges and affected their social lives (or lack thereof).

Present - Current influences on social life.

This period of time highlights current situations, challenges, crises and their evaluations of these situations including the role of social services, female family members, friends and neighbors, and, again, the influence of health on their ability to be social.

Putting the 'Social' in Social Services. All women received home-delivered meals, some developing social relationships with those who delivered their meals. For some, this individual--their 'driver' as they referred to them -- played a significant role in their lives. Drivers served as someone who checked-in on them, provided social interaction and support.

One woman with limited social contact relied upon the driver for assistance with small tasks, such as bringing in the newspaper from the street. Unfortunately, because her meal delivery was Monday through Friday, this social support was also limited to this schedule. Therefore, when she needed assistance opening a bottle of medicine she decided to wait until her driver appeared on Monday morning:

> *"You know I can't believe that they-that they make something like that [medicine bottle] for an 80-year-old. I had to wait two days for-for [driver name] to come…he only comes five days [a week]" (TG, 89)*

Further highlighting women who lacked social support was a story shared by a participant who had fallen out of bed. Though she was not hurt, she was unable to get up off the floor sharing:

> *"…could not get up for four days. I remained in the floor and…I noticed the pattern of the mailman coming and so I started calling out, but he never heard… so I finally got…myself turned around and creeped and pulled the landline onto the floor and dialed 911…*
>
> *…when I got home, I asked the mail carrier, "Could you hear me calling out, 'Help help?'" He said, "No." He said, "I tell you what, I am going to start doing welfare check-ups on you every day that I'm on my route." And… he did that and we developed this wonderful [relationship]." (HO, 70)*

This participant had no social support. Following this incident, her mailman volunteered to check on her for the following 2 years. Unfortunately, when his route changed, the welfare check-ups ended as did her only social support.

Having no one to check on them, and no one to call for assistance was the case for several participants. Unfortunately, calling 911 for non-medical emergencies was common even when these women considered themselves socially connected. In multiple instances, social support was received by phone only, with family or friends living too far away to be available for attending to immediate needs such as assistance with medicine bottles or falls. Highlighting the lives of those with additional support services available to them were stories from those with home-health aides or other professional assistance in their homes.

Those who had home health aides through supplemental security income (SSI) had assistance with light housekeeping, groceries, personal care needs, and transportation. In addition to the variety of services they provided, these women were less socially-isolated; some aides even became 'like a friend'. For one woman, her aide saved her life. One of the benefits of having consistent contact was that the aide knew something was 'wrong'. On Monday, after lying on the floor for 2 days, her home health aide became concerned when she did not answer the door. Knowing something was severely wrong, she ran to the fire station (conveniently located next door):

> *"…she stopped next door to the fire department and got the paramedics. 'I know she's in there'. They said, 'Well she may not be home', she said 'Oh no, she's home'. I was just glad she found me, because I could have just laid there and died... like I said if it weren't for her…" (PR, 66)*

This participant had been disabled for the majority of her life, and trust was built with her caregiver and caregiver's family. Professional caregiving was passed on through family members, with mothers and daughters and sisters of the same family hired over the years.

Though social support in exchange for compensation was valued both instrumentally and socially, if they existed, participants preferred family support. Support was typically received from female children and other female family members.

Female family members – Varying relationships. Family support was primarily performed by women including daughters, nieces or a sister-in-law. The type of social contact depended on the nature of the relationship as well as their proximity. For those with local and supportive family members, participants often received assistance in meeting basic needs, but any social aspect of their interactions was interpreted as secondary. This was demonstrated when participants shared that they felt an imbalance in the relationship. For example, they described feeling uncomfortable asking for more from family such as social activities, describing that they would be further '*burdening'* them. Not all participants were physically close enough to family members to receive assistance with basic needs; in these cases, interactions with family were relegated to the telephone. Though family members made phone calls to 'check-in', these social interactions included an intentional social aspect compared to those who provided instrumental support. Though family support was significant for some women, not all participants had any family members in their lives due to death or estrangement.

Estranged relationships were typically with children and appeared to cause these women heartache, particularly strained relationships with daughters. For those with tenuous relationships with their children, most wished for restoration or healing. Some shared they were hurt that their children did not support them more. One participant, though having a relationship with her children, felt that they should be assisting her more given her age. As she shared: *"I'm here by myself. They don't call or check on me. I call them. They don't answer the phone [began to weep]" (DW, 66).* Instead of providing her with the support she needed, she shared that she only

received a call when they needed something but that they never asked how she was doing or what she needed. This was painful for her as she and her sisters had cared for her mother in their homes, expressing dismay at her daughter's lack of reciprocity. Other participants shared they had no relationship with their children; some regretting having children altogether. Others shared they had lost contact with their children over time and were unaware of their children's whereabouts.

Friends who are gone and neighbors who are present. Friends were described in a variety of ways, some defined friends as those present over an extended time and who knew them well, while others noted they were friends with neighbors. How women maintained relationships or were able to create new friendships differed.

Some women had friendships with other women lasting 30 to 60 years. For health and transportation reasons most no longer maintained face-to-face contact. However, these relationships were deeply important to them and were sustained by telephone. One woman shared she had maintained a friendship since college and, though neither she nor her friend could travel any longer, they called each other to '*make sure the other was still alive' (LT, 82).* Though she laughed as she said this, she admitted a truth in her statement. They called to be social but both acknowledged the chance that the other might not be there at some point. Many women described long-term friendships with other women as being important because they knew things about each other and their history.

For some, proximal contacts such as those who lived on their street or in their apartment complexes served as social contacts or friends. These friendships developed over time for example, some participants attended activities with their neighbors, some received social

support, and others developed much deeper relationships with their neighbors. Some relationships developed based on similar interests:

> *"…I go to church sometime when my neighbor can take me…because her husband's in one of those homes…I like going to the church. I like the people. They're all so nice and friendly… she introduced me to that church" (RT, 70).*

Two participants had created relationships with their female neighbors, particularly those who were neighbors for many years. This relationship was structured, in these cases, both attended church activities together.

Relationships with neighbors were especially important for those who had no social contacts. For example, during difficult times some participants would turn to those in their apartment complex for support, both tangible and emotional. One woman shared that when she had run out of food, she turned to her neighbors.

> *"…this young girl said, 'If you ever need anything, call me and let me know'…and last weekend…I had absolutely no food in the house…and I went to her door with my little Carnation plastic canister, and I said, 'May I get, may I buy a cup of rice and a piece of fruit from you?' And she invited me in…" (MK, 76).*

Another participant shared that she was currently dealing with a recent trauma that caused her to be emotionally paralyzed from leaving her apartment. She depended on an electric wheelchair to be mobile, and, until it was stolen a year ago, she considered herself very social. When navigating her apartment complex, she used her seated walker for mobility. However, one day upon returning to her apartment, she discovered her electric wheelchair stolen. Since this time, she has felt unable to leave her apartment: *"…it just scared me into paralysis… I just don't bother with it [being social] anymore" (BT, 67)*. In the aftermath of this incident, she was disheartened with her community's lack of care and assistance in retrieving her wheelchair. She described her current feeling as '*extremely hurt and disappointed in humanity,'* and felt terrified that she was so vulnerable. Her social life abruptly ended at this point; she ended her role in her

associations and stopped teaching English as a Second Language (ESL) at her apartment. With the only exception of visiting her one friend and neighbor, she has not left her apartment.

New spaces to be social - Later life experiences of health. Whether living with long term disabilities or with more recent diagnoses, health was a significant factor affecting these women's current social lives. Depending on their health status, they navigated their world in different ways with different resources.

One participant had remained socially active despite early life health issues; however, incontinence now challenged her ability to be social:

> *"...They [Access paratransit] took Gilligan's Island, supposed to be a three-hour tour. They took the scenic route and by the time I got home, I had to use the restroom, and I didn't make it, but I was prepared" (VF, 82).*

Once a very social person, incontinence and her reliance on paratransit significantly impacted her ability to, and confidence in being social outside of her home. Though she was still able to be active on the Internet, she admits that in recent years she has limited herself to trips she deemed essential.

Opportunities to be social for two women with significant health issues, such as kidney failure requiring dialysis, shaped the lives in different ways. For both, dialysis was a substantial portion of their lives taking up to 6-7 hours per day (with Access paratransit) and 3-days a week. These women spent a similar amount of time in dialysis with patients and medical staff but interpreted this time differently. For one, though dialysis was painful and at times '*a drag'*, it was the only face-to-face social interaction that she had. It was something she looked forward to, admitting:

> *"…without it I don't see no one all day, there's no one to talk to, it's very lonely for me here [home]. All I have is this TV…so I look forward to it. They all know me there and we talk…"(DW, 66).*

Time spent in dialysis was not unanimously viewed as a social opportunity, however. Another participant requiring dialysis went to a location where patients were largely not English-speaking causing her to feel excluded.

Participant's individual health played a significant role in their ability to be social, as did the health of those around them. For example, women in caregiving roles had little time to be social with their female friends. One participant noted that she was unable to connect with long-term friends as they were caregiving for parents or spouses: *"…she's taking care of her husband and she can't drive, so we are just talking on the phone now, we don't see each other much" (DE, 88).*

These women have managed challenges to their physical and social well-being in different ways. Shaped by preceding dynamics, social services, family members, friends and neighbors, and health all challenged each woman's crises and current circumstances.

Resolution - Evaluations of current and future social life.

Barriers to being social included health challenges, financial insecurities, and strained family relationships. How or if these women were able to be social varied; some were able to act on solutions to be more social, while others struggled to identify a solution.

Solutions for increasing social contact. The proximity of neighbors as a social contact was previously noted as an advantage when mobility became challenging. Some women intentionally moved to be near people they knew, as was the case for two women interviewed. These women shared similar life stories, one was diagnosed with terminal cancer at age 30, and the other had a Fibromyalgia diagnosis at age 40. In a chance meeting at a women's shelter, they struck a friendship that they maintained via email. They were both granted Section-8 housing vouchers, and through a fortuitous opening in an apartment complex, became neighbors. Since

this time, the two have lived separately but also dependently. For example, they shared food costs, cooking responsibilities, a mobile phone, and an internet plan. Though similar in many ways, their social needs differed. While both felt socially-isolated from others, only one desired increased social contact. Unable to find and make new friends one expressed her astonishment at the difficulty. She wished for a '*guidebook or a brochure for older women' (AT, 65)* on how and where to make new friends. She was not alone in her struggle to meet other women.

Social needs yet unmet. Though some identified solutions for increasing social contact, this was not the case for all participants. Others continued to struggle with feelings of social isolation, lack of support and general feelings of disconnection. One woman desired an increase not only in social contact but also in support of her children. Interestingly, she shared that instead of spending money on things that would make her happy, such as buying eyeglasses to read the Bible or getting her hair done, she, instead, gave any money she had to her daughter. She lamented the lack of love and care from her children. With no one else in her life, she expressed feeling lucky to have patients in dialysis to see every other day:

> *"Yeah, it's like family-you know, so that's the only [social] time I have...you know...Like on Tuesdays and Thursdays I'm just sitting here watching the TV, my family - my kids? They don't call unless they want something" (DW, 66)*

Though social contact was made through dialysis, she continued to yearn for contact and better relationships with her children, particularly her daughter.

Other participants, dissatisfied with their social lives also attributed challenges with family as a contributing factor. In addition to holding two jobs, one woman had dedicated herself to caring for her father for 20 years. She reflected on her stress and losses:

> *"…between my two jobs, and taking care of him okay. And that's it! No time left in life…at that time, I was also visiting my sister who was a big support. But then when he [father] passed we've as just been apart my sister and I, and that's it, we are not close anymore since after 2003" (VC, 75)*

She proposed that her lack of social contact might also be due to being an immigrant; she often had trouble connecting to women who did not share her language or culture. She questioned where she might find friends as her volunteer work, and involvement with her church did not provide the social life she desired. Currently, without an answer, she wondered where older women might be and what they were doing after retirement.

Alternatively, other women described mobility as a limiting factor in their social lives. Despite being relatively mobile, some described the consequences of walking around their neighborhoods. For example, one woman with Fibromyalgia described her neighborhood as enjoyable and '*pretty walkable'*. As opposed to risks, she identified the consequences of walking. '*I pay for it the next day…after I go for a walk the next day I am in pain and can't really do anything…' (KR, 77)*. Despite this certainty and a recent fall resulting in a hospitalization, she continued to walk a couple of days a week, believing it was good for her to be with people. Others felt that after taking care of their health they had little energy for much else:

> *"…if I have to go to a doctor's appointment, that's it for the day. That's the activity. If I have to go out and do errands, that's the activity. There's not enough... There's not much resource left to go out, and socialize…But yeah, my health does kind of rule the day, unfortunately" (RT, 70)*

In combination with physical mobility, several women used the Internet as a way of keeping in contact with others. Some used the Internet for social contact, particularly those with family in their country of origin. With her daughter's Internet and laptop, one woman was able to maintain contact with family in Hungary with weekly calls. Another woman, who was originally from Sweden, had at one point used Skype to keep in contact with her brother and his children but was currently unable as it was broken. An equal number of women wanted to use the Internet, but they did not know how:

> *"I've got this computer here and I am sure works and all and I've got the subsidized Internet and all but I don't know how to use it. I wish I had someone to show me, I would look for people I lost contact with…" (BT, 67)*

For others, the Internet represented a partial solution, but they were still left with no desired face-to-face contact. For several women, social media, blogs, and even dating websites kept them '*in touch'* and '*part of the world',* but these media were not the desired relationships.

Some, despite multiple barriers, had resources such as neighbors, social service providers, and the Internet, that they were able to leverage to increase their social contacts. However, many women were at a loss as to how to fulfill social needs, especially women with strained parent-child relationships, caregiving and/or cultural barriers, and health challenges limiting their opportunities. These evaluations show that some found partial solutions to their self-identified current or past issues with social well-being, while others continued to struggle.

Discussion

Results from this study illustrate a variety of factors influencing the social lives of older women. The trajectories of their social lives were marked by significant changes in physical health and by the presence or absence of family members. They presented multiple ways of evaluating and managing changes in social contact and support. These results add to what is known about the social lives of older women by highlighting their unique experiences (problem or crisis), their perceptions of these crises, what actions were taken, and how they sought resolution.

Some participants demonstrated that some individuals within their inner circle, with whom they shared emotionally strong ties, had remained the same, while others had shifted dramatically across the life course. Consistent with previous research, a variety of factors influenced social isolation including individual factors such as living alone, physical and mental

health and personality characteristics, language and cultural barriers (Cacioppo, Fowler, & Christakis, 2009; Cacioppo & Patrick, 2008; de Jong Gierveld et al. 2009; Hawkley, Browne, & Cacioppo, 2005; Hawkley et al., 2008). Though women shared their struggles with managing medical bills, transportation, food insecurity and other restrictions due to financial restrictions, the majority did not attribute their lack of social connection as being related to their economic status. If they assessed their social life as isolated or lonely, it was more commonly attributed to a combination of physical and mental health, mobility or absence of family or friends.

The available contact versus the family contact.

Families matter, particularly in older age when they function as indispensable sources of support both instrumental and emotional. However, shifts in family patterns over the life course leave older adults and women, in particular, in vulnerable positions (Waite & Das, 2010). For many participants, family roles fell on a spectrum ranging from not present in any form, to present via phone but geographically distant, or physically present but only for instrumental assistance (without social purpose). For a few, family members were present for both instrumental and emotional support.

Participants often described their social lives in the context of expectation. These women had expectations of their family members and close friends, some of which were realized while others proved to be disappointing. They described the hurt and pain from losses in their social convoy including lack of contact with siblings, estrangement from children, and abandonment by friends during their early lives or at present (Prelude and Present). Their disappointment came from the mismatch between expectation and result. Many women expected their family members to be there for them and to support them, particularly in later life. That women had caregiving expectations of their children, particularly their daughters, is not surprising given that filial piety,

or the cultural expectation to provide care, is common among African, Asian and Hispanic Americans (Pharr, Dodge Francis, Terry, & Clark, 2014). Though family played a significant role, their role was more complex than whether they were present or not, providing social support or not. Even for those with family members who were present and supportive, this was often described as inadequate.

Most women felt their social lives were important and sought ways to fill this void. When looking at objective isolation (quantity) versus subjective isolation (subjective absence of or quality of relationships), women appeared to differ in their motivation. Those who had few (zero to one) social contacts desired to increase the number of their social contacts. Alternatively, those who had more social contacts expressed a desire to either improve the quality of their relationships or find new contacts. With limited knowledge on where to find new social contacts and limited mobility, social contact and/or social support were often replaced with individuals who were consistently present in their lives. Therefore, social support from members of the peripheral networks such as next-door neighbors and social service providers shifted into positions within their inner social circle. These peripheral contacts are important despite being less intimately connected to the individual (Berkman et al., 2000). This may be particularly true for those with small networks; in these cases, peripheral ties may potentially moderate the negative effects of social isolation and loneliness (Cloutier-Fisher et al., 2011). Several women presented their home-delivered meal ‘driver’, medical staff at dialysis, housekeepers, and home health aides as their most important social contact. These relationships, though consistent and meaningful, are ephemeral and based on providing a service. The nature of these relationships is unreliable over time. Still, objective social isolation is partially relieved through this consistent contact. In some circumstances, this consistency impacted women’s lives in substantial ways, but

instrumental social support cannot be equated to that of friendships or kinship. These significant contacts are distinct from that of a family or friend relationship which may include reciprocity (Finchum & Weber, 2000).

This study supports the importance of being connected with neighbors and the local community. Social connectedness can generate feelings of belonging and solidarity (Gallagher, 2012). This is advantageous, as identified by Ashida and Heaney (2008), who find a positive association between social connectedness and health status among older adults. Some women lived in the same neighborhood for extended periods. Particularly among those who were less mobile, access to neighbors was often the most easily accessible, some shared these relationships to be satisfactory. They were more likely to develop relationships with their female neighbors and were most often based on participating in religious activities. Other less mobile women sought social interactions through the Internet. Though only a couple of women used the Internet for social purposes such as following social media and professional blogs, others used the Internet for general information gathering. The Internet was a space to be social for some women by facilitating a feeling of connection to the world. However, it was generally not with specific individuals. No consensus exists on the impact of the Internet on social isolation or loneliness. For example, higher Internet use is associated with better self-rated health, fewer chronic illnesses, higher subjective well-being, and fewer depressive symptoms (Chopik, 2016). But others find no relationship between technology/Internet use and depression, quality of social relationships, and well-being (Elliot, et al, 2014; Hayes, Stolk-Cooke, Muench, 2015). Though two participants used the Internet to connect with family members who lived internationally, navigating Skype or FaceTime on their own was not possible. Having a family member to facilitate this social activity was essential for making contact with others. Further, some women

expressed a desire to learn how to use their smartphones or computers to connect with family, particularly younger members. Unfortunately, without assistance and guidance, they were unable to realize this desire. Therefore, though the Internet was useful for some women to remain connected to others, this was not common for this group. The reasons included partially a lack of individuals to be social with online as well as the need for assistance in navigating technology.

Significance of a single social contact.

Women varied in their number of social contacts; however, many only named one contact, making this single contact integral to their well-being. Socially-isolated older women have rarely been investigated, particularly at this level of social isolation. However, a study of extremely isolated, (defined as living alone and with no contact with family or friends in the two weeks prior) older African American women were found to be three times more likely than non-isolated women to die within a 5-year period (LaVeist, Sellers, Brown, & Nickerson, 1997). This role is particularly important when the contact is held by someone in social services. A recent study of the effect of home-delivered meals found lower loneliness scores among recipients compared with those not receiving meals. These results show that those with more frequent social contacts, even brief service-based contact, experienced improvements in self-reported feelings of loneliness (Thomas, Okabundu & Dosa, 2015).

For those whose single contact was a geographically close family member who played a socially supportive role, participants reflected feeling satisfied with the support they received. Interestingly, those with a family in a supportive role had exponentially more contact with others. A single family member, in most cases a daughter or niece, served as the channel for accessing further social contacts. For example, those with family were often transported to various locations such as church services or bible study, hair appointments or senior centers for

exercise classes where they had additional social contact. As previously noted, family members additionally facilitated social contact with others by assisting with the use of the Internet. Family members were largely present to assist with activities of daily living (ADLs) and instrumental activities of daily living (IADLs). However, when social contact existed, it served as a bridge for additional social contact.

At the same time, women with social support from family members appeared to be acutely aware of the time and effort required to attend to their instrumental needs. Studies investigating caregiver-care receiver dyads have found that older adults do not want to burden their family members; some older adults indicated an aversion to encumbering family with information about poor health or asking for involvement in daily routines, medication adherence, and doctor's appointments (Cahill, Lewis, Barg & Borgner, 2009). This was particularly true of mothers, who wished they could be less of a burden to their daughters (Ward-Griffin et al., 2006; Ward-Griffin, Oudshoorn, Clark & Bol, 2007). The concept of burden deterred these participants from asking family for assistance with socializing typically with transportation.

Theoretical Contributions

The Life Course Perspective facilitates our consideration of the various changes that occur from birth to death and the factors that influence those changes such as biological, developmental (including social and psychological factors), demographic, social, structural, historical, and geographic (Elder, Johnson, & Crosnoe, 2003). Integrating the Social Convoy Model within the Life Course Perspective helps explain the diverse experiences and trajectories in the social lives of older women who are socially-isolated or at risk. First, multiple powerful early life experiences have an impact on women's long-term social lives from which many never recovered. Second, expectations of those who were considered within the inner circle (those with

emotionally strong ties) were not always met by friends or family members, in part, because of conflicting cultural and gender role expectations.

The social lives of older adults differ from that of middle adulthood, often marked by a decline beginning in late adulthood and continuing through old age. Using a Life Course Perspective, social lives for those women with significant early life changes appeared nuanced. For example, those who immigrated to the U.S. in adulthood had preconceived notions about what their social role would be, based on cultural knowledge. Next, those who experienced significant changes in their health early in life lost individuals from the inner and middle circles of their social convoy. Contrary to the Social Convoy model (Antonucci et al., 1986), they failed to recover from these losses because of various reasons such as economic hardship, and/or social isolation due to temporarily being homebound, institutionalized or homeless. This was particularly true for older women who lost their social convoy early in life. When this occurred, consistent with the convoy model, those from the outer circle (peripheral ties) with whom ties were not strong, moved into vacant inner circles (Antonucci et al., 1986). Those contacts in the periphery were social service employees, such as those paid to provide instrumental support including meals-on-wheels and in-home health aides. The fact that these women's convoys included only one or two contacts and they solely contained tenuous instrumental social supports places incredible weight on these relationships.

Others demonstrated losses within the inner circles of their social convoy later in life. For these women, social isolation similarly occurred due to health challenges. Additionally, relationship changes with family members, particularly parent-child relationships, had an effect. This presented itself from both positions: that of the participant as a child caregiver as well as participants as mothers expecting caregiving from their daughters. Those who served as

caregivers often lost contact with those in their convoy, while stress additionally put other family relationships (such as with siblings) at risk, further isolating the caregiver. Further, older women demonstrated expectations of caregiving from their children - fulfilling anticipated social roles according to societal expectations (Aronson, 1992). This was particularly true of female family members and, particularly, daughters (Aronson, 1992; Pinquart & Sorensen, 2006).

Antonucci and other scholars building on his work have observed how individuals maintain a set of social relations consisting of kin and non-kin that follow them throughout their life course. They posited that the closest members of the convoy, the core, persist throughout the life course (Antonucci et al., 1986; Antonucci & Akiyama, 1987; Bengtson, 2009). This was not found among this population of older women, many of their inner circle including family members were lost and never replaced both early and later in life. For others, peripheral members, those linked with them through weak ties, did migrate in, though they were more transient in nature.

Limitations

This study is subject to some limitations. SBSS participants were not asked if they participated in congregate meals at their senior center; however, it is unlikely given they did not mention this in the content of their narratives and likely transportation challenges. The sample of women were not assessed for social isolation or loneliness. Though a limitation, current measures (e.g. UCLA Loneliness Scale, Duke Social Support Index) were not seen as appropriate. Given that some participants had essentially no social contacts, it was assessed that such survey questions were potentially harmful as the survey would require the participant to repeatedly respond that they had no social support or contacts. Another limitation is that only English speaking women were included in this study; other populations such as Spanish and

Korean speaking older women may experience social well-being differently. Despite this, these findings inform future research with these populations who may additionally experience linguistic isolation. Finally, given the small sample size, analysis in this study did not distinguish participants by ethnicity/race, even though nearly half of participants identifying as non-White. Therefore, certain intersectional aspects of these participants' experiences were not captured.

Practice, Policy and Research Implications

Practice.

Health conditions can significantly affect social well-being, regardless of early and later life diagnosis. Social service providers must, therefore, be sensitive to socially-isolated older adult clients as well as those at risk. A missed appointment or client at risk of losing services is not only just at risk of losing of instrumental support but also at risk of losing emotional support. Further, this research demonstrates multiple intervention points where social support might be provided, such as discharge from the hospital, Emergency Room (ER), or nursing home. Social workers and case managers should identify risk factors for social isolation and not only connect patients with community resources such as transportation services and meal delivery but also resources that might improve or maintain their social connections, such as senior centers and congregate meal programs. Further, follow-up calls from social workers may assist in managing shifting instrumental assistance and social needs, which may also reduce hospital readmissions. Further, given the expectation of women to carry the caregiving load for family members both old and young, social service providers must recognize the burden placed on women and connect them to support groups and respite services.

Policy.

In October of 2019, funding for the Meals on Wheels received through the OAA was reauthorized through The Dignity in Aging Act, H.R. 4334 with a fiscal increase to all programs (including transportation and food assistance) resulting in a 35 percent increase in program funding. Though the first objective of the OAA is focused on food security, the second objective, namely to promote socialization of older individuals, had not previously received significant emphasis. This landmark reauthorization additionally puts a greater focus on social isolation by Directing the Assistant Secretary for Aging at the Department of Health and Human Services to convene a national advisory council of aging network stakeholders to review and evaluate the negative health effects associated with social isolation to identify challenges, solutions, and best practices related to such efforts. In addition, the Assistant Secretary is to fund local organizations to evaluate services that promote or support social connectedness and reduce negative health effects associated with social isolation (The Dignity in Aging Act, H.R. 4334, 116th Congress, 2019). This creates a national focus on social isolation and represents a significant initial step towards addressing this issue. Though novel programs to reduce social isolation may be warranted, results from this study additionally support the recommendation for evaluating existing programming. It is recommended that local organizations providing MOW receive funding from the Department of Health and Human Services to evaluate their program delivery.

Home-delivered meals are provided throughout the county by numerous organizations. Given the anticipated incorporation of the City and County Area Agencies on Aging (AAA) in Los Angeles, there is an opportunity to refocus on the provision of MOW as a way of addressing social isolation. For example, it may be advantageous to collapse efforts across cities and unincorporated areas to reduce fragmentation and improve the delivery of services. Additionally,

there is potential funding available for the newly incorporated County AAA to attain funds from the reissued OAA to evaluate and improve their current service delivery.

Increasingly, there is greater diversity in the older adult population, particularly in the state of California. With growing ethnic diversity, the cultural disconnect between older immigrant women and their children regarding parent-child caregiving expectations may increase. As shown in this research, this population may additionally include older women who have no one to provide them with social support (instrumental or emotional), including those who are childless or live too far away, or who are estranged from their children. Social connectivity with non-kin such as neighborhood social contacts may facilitate aging-in-place for these women. Taken together, it may be that individual neighborhoods may be the best at serving their own older adult populations, particularly in ethnic enclaves. The village movement has gained national attention with a model that provides affordable options for those who want to age in place (Village to Village, n.d.). In this model, a group of older community members forms a non-profit membership organization to provide access to services to its members living in their homes. The village sizes range from a few blocks to a 20-mile radius with members determining the services it provides (e.g. home modifications, transportation, social activities) and is typically run by volunteers who connect members with services. These self-governing, self-supporting models are often initiated and developed within neighborhoods themselves, making each village unique by serving the specific needs of their 'village'. Since there is growing diversity among the older adult population, this model is appropriate. It would both empower and socially connect women and their neighborhoods. In light of the political climate, a window is now open for political support of such opportunities as California's Master Plan on Aging and more locally, Los Angeles' Purposeful Aging Los Angeles (PALA) gain momentum.

Future research.

Research implications include understanding the capacity for improving social connections at non-traditional locations, such as dialysis centers or Section-8 housing, and home-delivered meals. For example, investigations of how workers with contact with older women with health or mobility challenges might help increase their social well-being.

Though there are certain requirements for receiving OAA funding, structures and resources within organizations vary. Therefore, it may also be important to investigate the different ways that MOW programs are administered. This may influence how the program is administered and thus its impacts on recipients. For example, some organizations like St Vincent Meals on Wheels enjoyed the support of a large volunteer workforce, while others like SBSS did not. St Vincent drivers prepared meals; however, meals were hand-delivered by volunteers. Given the significance of the relationship between the individual hand-delivering meals and the participant, it may also be interesting to study the differences between programs that use volunteers versus paid employees, and the nature of relationships with volunteers or employees influences recipients.

Lastly, in the coming decades, older ethnic minority populations, particularly Asian and Hispanic, will be growing rapidly. They are also expected to experience a greater demand for family caregiving. Coupled with the culturally perceived mandate to provide care (filial piety) for family members, particularly among African, Asian and Hispanic American cultures it will be important to understand the experiences of and impact on these caregivers.

Conclusion

This narrative inquiry into the social lives of older women at risk for social isolation highlights the significance of health challenges as well as the presence of individuals that make-

up their social circles. Viewed through these theoretical lenses, results underscore the importance of a single social contact. Implications include a focus on supporting older women at critical points along the life course such as interactions with health care and social service providers, as well as facilitation of aging-in-place through social connectivity.

References

Administration for Community Living (nd) Retrieved from: https://acl.gov/programs/health-wellness/nutrition-services

Ajrouch, K. J., Antonucci, T. C., & Janevic, M. R. (2001). Social networks among blacks and whites: The interaction between race and age. The Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 56(2), S112-S118.

Ajrouch, K. J., Antonucci, T. C., & Webster, N. J. (2014). Volunteerism: social network dynamics and education. Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 71(2), 309-319.

Anderson, E. Feminist Epistemology: An Interpretation and a Defense. Vol. 10, No. 3, Analytic Feminism (Summer, 1995), pp. 50-84 (35 pages)

Antonucci, T. C., Fiori, K. L., Birditt, K., & Jackey, L. M. (2010). Convoys of social relations: Integrating life-span and life-course perspectives. The Handbook of Life-Span Development.

Antonucci, T. C., Birditt, K. S., & Akiyama, H. (2009). Convoys of social relations: An interdisciplinary approach.

Antonucci, T. C. (2001). Social relations: An examination of social networks, social support, and sense of control.

Antonucci, T. C., Ajrouch, K. J., & Birditt, K. S. (2013). The convoy model: Explaining social relations from a multidisciplinary perspective. The Gerontologist, 54(1), 82-92.

Antonucci, T. C., Birditt, K. S., & Ajrouch, K. J. (2011). Convoys of social relations: Past, present and future. Handbook of life span development, 2(1), 161-182.

Belenky, M. F., Clinchy, B. M., Goldberger, N. R., & Tarule, J. M. (1986). Women's ways of knowing: The development of self, voice, and mind (Vol. 15). New York: Basic books.

Brooks, A., & Hesse-Biber, S. N. (2007). An invitation to feminist research. Feminist research practice: A primer, 1-24.

Cahill, E., Lewis, L. M., Barg, F. K., & Bogner, H. R. (2009). “You Don't Want to Burden Them” Older Adults' Views on Family Involvement in Care. Journal of Family Nursing, 15(3), 295-317.

Chia, R., & Rasche, A. (2010). Epistemological alternatives for researching strategy as practice: building and dwelling worldviews. Cambridge handbook of strategy as practice, 34-46.

Chopik, W. J. (2016). The benefits of social technology use among older adults are mediated by reduced loneliness. Cyberpsychology, Behavior, and Social Networking, 19(9), 551-556.

Cohen, D., & Crabtree, B. (2006). Qualitative research guidelines project.

Cortazzi, M. (2014). Narrative analysis. Routledge.

Courtin, E., & Knapp, M. (2015). Health and wellbeing consequences of social isolation and loneliness in old age. NIHR School for Social Care Research.

Creswell, J. W., Hanson, W. E., Clark Plano, V. L., & Morales, A. (2007). Qualitative research designs: Selection and implementation. The counseling psychologist, 35(2), 236-264.

Creswell, J.W. and Poth, C.N. (2018) Qualitative Inquiry and Research Design Choosing among Five Approaches. 4th Edition, SAGE Publications, Inc., Thousand Oaks.

de Jong Gierveld, J., Broese van Groenou, M., Hoogendoorn, A. W., & Smit, J. H. (2009). Quality of marriages in later life and emotional and social loneliness. Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 64(4), 497-506.

Elder, G. H., Johnson, M. K., & Crosnoe, R. (2003). The emergence and development of life course theory. In Handbook of the life course (pp. 3-19). Springer, Boston, MA.

Elliot AJ, Mooney CJ, Douthit KZ, et al. Predictors of older adults' technology use and its relationship to depressive symptoms and well-being. The Journals of Gerontology Series B: Psychological Sciences and Social Sciences 2014; 69:667–677.

Flyvbjerg, B. (2001). Making social science matter: Why social inquiry fails and how it can succeed again. Cambridge university press.

Fuller-Iglesias, H., Smith, J., & Antonucci, T. C. (2009). Theories of aging from a life-course and life-span perspective. Annual Review of Gerontology and Geriatrics, Volume 29, 2009: Life-Course Perspectives on Late Life Health Inequalities, 1.

Geertz, C. (1973). The interpretation of cultures (Vol. 5043). Basic books.

Gielen, A. C., & Sleet, D. (2003). Application of behavior-change theories and methods to injury prevention. Epidemiologic reviews, 25(1), 65-76.

Greenfield, E. A. (2012). Using ecological frameworks to advance a field of research, practice, and policy on aging-in-place initiatives. The Gerontologist, 52(1), 1-12.

Hayes M, Stolk-Cooke K, Muench F. Understanding Face- book use and the psychological affects of use across generations. Computers in Human Behavior 2015; 49:507–511.

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.

Hawkley, L. C., & Cacioppo, J. T. (2007). Aging and loneliness: Downhill quickly?. Current Directions in Psychological Science, 16(4), 187-191.

Hooyman & Kiyak (2011). Social Gerontology: A multidisciplinary Perspective. Pearson

Jonassen, D. H., & Hernandez-Serrano, J. (2002). Case-based reasoning and instructional design: Using stories to support problem solving. Educational Technology Research and Development, 50(2), 65-77.

Kahn, R. L., & Antonucci, T. C. (1980). Convoys over the life course: Attachment, roles, and social support. In Life-span development and behavior (pp. 254–286).

Labov, W. (1972). Some principles of linguistic methodology. Language in society, 1(1), 97-120.

LaVeist, T. A., Sellers, R. M., Brown, K. A. E. and Nickerson, K. J. 1997. Extreme social isolation, use of community-based senior support services and mortality among African American elderly women. American Journal of Community Psychology, 25, 5, 721–32.

Lincoln, Y. S., & Guba, E. G. (2003). Ethics: The failure of positivist science. Turning points in qualitative research: Tying knots in a handkerchief, 219-238.

Lofland, J., & Lofland, L. H. (1995). Developing analysis. Analyzing social setting, 183-203.

Luanaigh, C. Ó., & Lawlor, B. A. (2008). Loneliness and the health of older people. International Journal of Geriatric Psychiatry: A journal of the psychiatry of late life and allied sciences, 23(12), 1213-1221.

Malterud, K. (2001). Qualitative research: Standards, challenges and guidelines. The Lancet. 358: pp. 483-488.

Margolis, R., & Verdery, A. M. (2017). Older adults without close kin in the United States. The Journals of Gerontology: Series B, 72(4), 688-693.

Maxwell, J. A. (2005). Qualitative Research Design: An Interactive Approach (2nd Ed. ed.). Thousand Oaks, CA: Sage.

McCormick, C. M., Kuo, S. I., & Masten, A. S. (2011). Developmental tasks across the life span.

Merriam SB. Qualitative Research: A Guide to Design and Implementation (2009) John Wiley & Sons, San Francisco, CA

Nguyen, A. W. (2017). Variations in social network type membership among older African Americans, Caribbean Blacks, and non-Hispanic Whites. Journals of Gerontology - Series B Psychological Sciences and Social Sciences, 72(4), 716–726.

Osis, M., & Stout, L. (2001). Using narrative therapy with older adults.

Padgett, D. K. (1998). Does the glove really fit? Qualitative research and clinical social work practice. Social Work, 43(4), 373-381.

Patton, M. Q. (2002). Qualitative Evaluation and Research Methods (3rd ed.). Thousand Oaks, CA: SAGE

Pew Research Center (2016). Divergent trends in living alone for older men and women

Pharr, J. R., Dodge Francis, C., Terry, C., & Clark, M. C. (2014). Culture, caregiving, and health: exploring the influence of culture on family caregiver experiences. ISRN Public Health, 2014.

Polkinghorne, D. E. (1988). Narrative knowing and the human sciences. Suny Press.

Polkinghorne, D. E. (1995). Narrative configuration in qualitative analysis. International journal of qualitative studies in education, 8(1), 5-23.

Ponza M, Ohls JC, Millen BE, et al. (1996a) Serving elders at risk. The Older Americans Act Nutrition Programs: National evaluation of the Elderly Nutrition Program 1993–1995. Volume II: Title VI evaluation findings. 1996.

Population Reference Bureau (2015). 2015 World Population Data Sheet. Retrieved from: https://www.prb.org/2015-world-population-data-sheet/

Riessman, C. K. (2008). Narrative methods for the human sciences. Sage.

Riessman, C. K. (1993). Qualitative research methods, Vol. 30. Narrative analysis. Thousand Oaks, CA, US: Sage Publications, Inc.

Scharlach, “Creating aging-friendly communities,” *Generations*, vol. 33, no. 2, pp. 5–11, 2009.

Schwandt T A 1997 Qualitative inquiry: a dictionary of terms Sage, Thousand Oaks

Schwandt, T. A., & Halpern, E. S. (1988). Linking auditing and meta-evaluation: Enhancing quality in applied research. Sage Publications, Inc.

Schwarzbach, M., Luppa, M., Forstmeier, S., König, H. H., & Riedel-Heller, S. G. (2014). Social relations and depression in late life—a systematic review. International journal of geriatric psychiatry, 29(1), 1-21.

Shanahan, M. J. (2000). Pathways to adulthood in changing societies: Variability and mechanisms in life course perspective. Annual review of sociology, 26(1), 667-692.

St Barnabas Senior Services (nd). Retrieved from: http://www.sbssla.org/what-we-do/

Takahashi, K., Ohara, N., Antonucci, T. C., & Akiyama, H. (2002). Commonalities and differences in close relationships among the Americans and Japanese: A comparison by the individualism/collectivism concept. International Journal of Behavioral Development, 26(5), 453–465.

Thomas, K. S., Akobundu, U., & Dosa, D. (2015). More than a meal? A randomized control trial comparing the effects of home-delivered meals programs on participants' feelings of loneliness. Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 71(6), 1049-1058.

Umberson, D., & Karas Montez, J. (2010). Social relationships and health: A flashpoint for health policy. Journal of health and social behavior, 51(1_suppl), S54-S66.

Ward-Griffin, C., Bol, N., & Oudshoorn, A. (2006). Perspectives of women with dementia receiving care from their adult daughters. Canadian Journal of Nursing Research, 38, 120-146.

Ward-Griffin, C., Oudshoorn, A., Clark, K., & Bol, N. (2007). Mother-adult daughter relationships within dementia care: A critical analysis. Journal of Family Nursing, 13, 13-32.AARP Foundation. (2012). Framework for isolation in adults over 50.

Waite, L., & Das, A. (2010). Families, social life, and well-being at older ages. Demography, 47(1), S87-S109.

Webster, N. J., Antonucci, T. C., Ajrouch, K. J., & Abdulrahim, S. (2015). Social networks and health among older adults in lebanon: the mediating role of support and trust. Journals of Gerontology, Series B: Psychological Science and Social Sciences, 70(1), 155–166.

Wertz FJ, Charmaz K, McMullen L, Josselson R, Anderson R, & McSpadden E. (2011). Five Ways of Doing Qualitative Analysis: Phenomenological Psychology, Grounded Theory, Discourse Analysis, Narrative Research, and Intuitive Inquiry. Guilford Press.

Wiles, J. L., Rosenberg, M. W., & Kearns, R. A. (2005). Narrative analysis as a strategy for understanding interview talk in geographic research. Area, 37(1), 89-99.

World Health Organization. (2007). Global Age-Friendly Cities: A Guide. Retrieved from http://www.who.int/ageing/publications/Global_age_friendly_cities_Guide_English.pdf

Wright, L., Vance, L., Sudduth, C., & Epps, J. B. (2015). The impact of a home-delivered meal program on nutritional risk, dietary intake, food security, loneliness, and social well-being. Journal of nutrition in gerontology and geriatrics, 34(2), 218-227.

Xing, C., Zhang, X., & Cheng, S.-T. (2017). Would more social partners lead to enhanced health? The paradox between quantity and quality. PsyCh Journal, 6(3), 219–227.

Zhu, H., & An, R. (2013). Impact of home-delivered meal programs on diet and nutrition among older adults: A review. Nutrition and Health, 22(2), 89-103

Appendix B: Manuscript II - Interview Guide

Ice-breakers

1. How did you come to live in this neighborhood?
    a. Probes: What types of things did you used to enjoy doing here?
2. What does a typical 'day in the life' for you look like?

Social Experiences

3. Tell me about the types things you used to do with friends and family when you were younger.
    a. How has this changed?
4. Describe meaningful relationships (i.e., people and organizations) in your life?
    a. Please describe the contact you have on a regular basis.
    b. In what ways do they support you? How might they do better to support you?
5. What do you enjoy most about your relationships?
    a. Tell me about it.
    b. How would you like to interact with people most? (Phone, face to face visit, etc.)
6. What would you change about your relationships with others?

Individual Factors

7. How would you describe your physical health?
8. How would you describe your mood? (mental health)
    a. How long have you been feeling this way?

Manuscript III: "I feel my world getting smaller and smaller": Neighbors and Neighborhood of Older Women at Risk for Social Isolation

Abstract

Introduction: Social isolation among the older adult population remains a significant social problem with adverse health consequences. Investigations of social isolation have historically focused on a single dimension of this multi-dimensional phenomenon, which fails to consider the interaction of individual and external factors that may contribute. This phenomenological inquiry aimed to better understand the lived experiences of older women who are socially-isolated or at risk and asks: How do older women understand their social well-being and mobility?

Methods: Using a phenomenological framework, through individual in-depth interviews with 20 community-dwelling older women at risk for social isolation, this qualitative inquiry sought to understand the meanings of, obstacles to, and opportunities for social contact.

Results: Three themes emerged: 1) Those with social network losses were socially-isolated despite mobility ability, 2) in the face of mobility and transportation challenges, basic needs were prioritized compared to social well-being, 3) participants became increasingly neighborhood-bound, which demonstrates the importance of accessible neighborhoods which offer more opportunity to their residents to participate in social life. This research highlights the impact of the built environment and public transportation on the ability of older women to be socially connected and maintain social capital.

Conclusion: The neighborhood social and built environment interact with older women's ability to be social. Implications include interventions aimed at leveraging neighborhood relationships and addressing policy focused on walkability and transportation accessibility.

Introduction

With rapid aging and urbanization, cities must provide the structures and services to support their residents' well-being and productivity to remain sustainable. Older adults, in particular, require enabling environments to support the physical and social changes associated with aging (AARP, 2015). Recognizing this need, the World Health Organization (WHO) has put forth the Age-Friendly Cities and Communities framework to facilitate such changes (World Health Organization [WHO], 2007). They propose that in an age-friendly city, policies, services, setting, and structures support and enable people to age healthy by:

> '…Recognizing the wide range of capacities and resources among older people; anticipating and responding to aging-related needs and preferences; respecting their decisions and lifestyle choices; protecting those who are most vulnerable; and promoting their inclusion in and contribution to all areas of community life' (WHO, 2007, pg. 5).

Numerous cities and counties participate in the WHO's Network of Age-Friendly Communities and aim to create livable neighborhoods for their older residents by addressing domains within the built and social environments, and community and health support (AARP, 2015). Despite improvements being made in the cities within the Network of Age-Friendly Communities, social isolation remains a significant social problem.

Older adults are vulnerable to social isolation due to deteriorating physical health, the death of a spouse, and living alone (Victor & Bowling, 2012). Being socially-isolated is associated with adverse mental and physical health consequences (Luanaigh & Lawlor, 2008), including lowered quality of life and higher levels of mortality (Courtin & Knapp, 2015). At the same time, remaining mobile is essential for well-being (Richard et al., 2013) and integral to maintaining independence (Fried et al., 2004; WHO, 2015).

Mobility is broadly defined as the ability to effectively navigate a neighborhood, to reach destinations in and outside a neighborhood for the fulfillment of utilitarian, psychosocial, recreational, (Musselwhite, 2015; Rosenbloom, 2004) and health needs (Taylor & Tripodes, 2001). Mobility is also vital to continue an active role in society, for the expression of individual identity and for social life (Mollenkopf, 2003). Mobility is, therefore, necessary for the overall well-being of individuals. Though mobility is most often accomplished by driving (Blumenberg et al., 2007), normal and pathological declines in older adults' physical and cognitive functioning may cause a reduction in their driving frequency and consequently, their mobility (Taylor & Tripodes, 2001). Without vehicular travel options, walking then becomes the most common form of mobility, particularly for older adults living in urban settings (Satariano et al., 2012). However, neighborhood built environments interact with individual physical abilities and can impede or enhance mobility (Clarke et al., 2009; Webber et al., 2010).

Factors within the built environment that affect mobility may also impact older adults' ability to create and maintain healthy social connections (Perissinotto, Cenzer, & Covinsky, 2012). For example, lack of transportation, proximity to resources, and "walkability" of neighborhoods can harm resident behaviors and put them at risk for social isolation (Kihl et al., 2005; Mendes de Leon, et al., 2009). Further, perceptions of safety and social cohesion, have an indirect influence on both subjective and objective social isolation (King, 2006). As the world of older adults shrinks with age, the neighborhood becomes an increasingly important place in which social connections can be made, and where social capital can be built (Buffel et al., 2013). An individual's mobility enables them access to a variety of goods and services as well as health services. Mobility may also negate social isolation through participation in cultural and social

activities (Schaie, 2003). Loss of mobility and limited transportation options likely contribute greatly to physical and social isolation (AARP, n.d.; Cattan, 2003; Courtin & Knapp, 2017).

Gap in Research

Research suggests strong interconnections between built and social environments, as the built environment may influence behavior patterns and opportunities for social connection (Kweon et al., 1998). Therefore, a neighborhood that limits mobility may potentially negatively affect older adult physical health (Horner et al., 2015) as well as social well-being (Richard et al., 2013; WHO, 2015), which may increase the potential for social isolation. However, investigations on social isolation have historically focused on a single dimension of this multi-dimensional phenomenon. Previous studies have focused on individual factors such as age, gender, health status (Holt-Lundstad, 2010) and the quantity and quality of social connections including social network size, frequency of contact and closeness of network (Cornwell, Laumann & Schumm, 2008; Coyle and Dugan 2012), participation in social activities (Coyle & Dugan 2012), and participation in social groups, number, and quality of relationships (Holt-Lundstad, 2010). The focus on individual factors fails to consider the interaction of individual and external factors that may contribute to isolation. Further, given the nature of social isolation, little knowledge exists regarding the experiences of older women and their perceptions of social isolation, especially when such experiences relate to constrained mobility. Finally, social networks may differ between older men and women. For example, women report receiving higher levels of emotional support from their children, friends, and relatives than from their spouses (Pugliesi & Shook, 1998; Simons, 1983; Simons, 1984). This may mean the potential for more stable social support networks across the life course. However, it may indicate mobility and participation in social networks as more crucial for women to maintain than for men (Siren &

Hakamies-Blomqvist, 2005). Therefore, this qualitative inquiry seeks to understand the social experiences of older women at risk for social isolation as it is related to mobility and the built environments in which they live. It seeks to understand the meanings of, obstacles to, and opportunities for social contact among older women.

Theoretical Framework

Significant study on the effects of social well-being and social isolation has occurred within the fields of psychology and gerontology; far less work exists using perspectives that situate older women within the context of their built environment. Two models help guide our understanding of women's experiences of mobility and their social well-being: 1) the concept of Social Capital as a resource available to individuals based on social networks or the more structural resources residing within the community and, 2) the Ecological Model which brings into focus the characteristics of the built environment and its relationship with older adult functioning.

Social capital.

Society is not simply the sum of individuals; society is determined by the collective characteristics of communities and societies (Kawachi & Berkman, 2000). Durkheim and Marx discussed several dimensions of positive social well-being. Durkheim posited that positive dimensions such as social integration and cohesion, a sense of belonging and interdependence, and a sense of shared consciousness are benefits of public (social) life. Further, the benefits of social life provide a foundation for global definitions of a social version of well-being (Durkheim, 1951). Coleman defines social capital as the resources that accrue to individuals via social connections, group-level norms, cohesion, and participation (Coleman, 1988). The community or neighborhood, for example, is a place where many older adults acquire social

capital (Buffel et al., 2013). This is not because social capital is bound by the neighborhood, but for those who are less mobile, local social contacts may be an important resource for receiving social and instrumental support (Forrest & Kearns, 2001; Gray, 2009). Social capital can also be seen as residing within the individual and accrued from their social networks (Putnam, 1995). For example, individuals' social capital can be gained through interactions with those surrounding them, including unplanned interactions, resource and information sharing, or social support. However, depending on mobility, older adults may or may not have access to and opportunities for interactions. Social interactions and connections do not occur in a vacuum; they exist within the structures and environments that individuals create; they occur in the neighborhoods, communities, and cities where individuals live, work, and play, and thus, may enhance or inhibit social well-being.

Ecological model.

The Ecological Model originated with Kurt Lewin, a psychologist who sought to understand the bidirectional effects of individuals and their social environments across their lifespan. Though originating in social psychology, the perspective has since been adapted and utilized across multiple disciplines. The model assumes that patterns of health and well-being are affected by a dynamic interplay among biological, behavioral, and environmental factors, which unfolds throughout the life course (Smedley & Syme, 2000). Urie Brofenbrenner (1994) took the model and specified various subsystems (*micro, meso* and *exo* and *macro*) that constitute the settings and life-space within which one develops. The model also assumes that individual factors (e.g. age, gender, race, ethnicity, and socioeconomic status) shape the context in which they function and both, directly and indirectly, influence well-being and one's access to resources. The model posits that individual development is adaptive and relative to an

individual's position within a series of nested systems and the relationships within and between those systems (Brofenbrenner, 1994). The *micro* system includes factors closest to the individual such as family and friends. Beyond this circle exist the larger neighborhood or city, community organizations, and government which are represented by the *exo* system. The last concentric circle is the *macro* system, which contains concepts that are removed from the individual such as culture, attitudes, and ideologies. The *meso* system represents the interactions between systems. For example, an increase in the cost of or reliance on Medicare (*exo* system) could lead to a decrease in disposable income and a reduction in financial resources (*micro* system) allotted for social activities (*meso* system).

M. Powell Lawton who studied the relationship between the environment and aging added to the ecological model by focusing on behavior and well-being (Lawton, 1982, 1989; Nahemow, 2000). Lawton and colleagues proposed that human behavior and functioning resulted from individual competencies. An individual's competencies would interact or adapt to the environment to meet the demands or "press" of the environment. Further, they viewed the relationship between individual competencies and the environment as a "dynamic process" (Lawton, 1982). This aspect is particularly relevant to the study of aging, given that individual competencies change during this process. Using this framework, if older adults' individual competencies do not meet the demands of their environment, then they will increasingly become barred from their communities and, possibly, from social connections.

The Ecological Model and concept of Social Capital provide initial perspectives for understanding older adults' social isolation and mobility, recognizing the importance of the physical environment and how *meso* factors may influence their experience of this environment. The Ecological Model may also help explain how older adult competencies function to meet the

demands of their environment. The Ecological Model and concept of Social Capital can help explain how social well-being and mobility may be affected at multiple levels from the individual, to their community, to the policy level.

This phenomenological inquiry aimed to better understand the lived experiences of older women at risk of social isolation, namely their perceptions of mobility in relation to their opportunities to be social.

Research Question:

The overarching research question asks: How do older women understand their social well-being and mobility? The aim was to elicit the meanings of, obstacles to, and opportunities for social contact in relation to mobility.

Methods

Individuals construct meaning through lived experiences defined by their beliefs, values, and culture. Therefore, to best comprehend a phenomenon of interest, one must view it from the perspective of those who experience it. Qualitative research is interested in understanding how people "interpret their experiences, how they construct their worlds and, what meaning they attribute to those experiences" (Merriam, 2009, p. 5). Therefore, this is an effective way of describing and understanding how individuals make sense of their unique experiences in the world.

This study used purposive sampling methods because for phenomenological studies, all participants must have experience with the phenomenon studied. Though selection bias limits the validity of the sample for quantitative studies, qualitative inquiries do not require representativeness for generalizability. The purpose was to identify 'information-rich cases'

(Patton, 2002) to understand the phenomenon in-depth conceptually, rather than determine what is generally true of the many (Merriam, 2009).

Participants were interviewed in a quiet, private location of their choosing in order to create an environment where they might feel at ease (Krueger & Casey, 2009). Privacy was accounted for as some may feel uncomfortable talking about their beliefs, their social life, and personal health information in certain environments. The interview included a few structured demographic questions such as age, ethnicity, housing, marital, and socioeconomic status. What if any mobility aids they might have used was captured via field notes. This descriptive data help provide deeper insight into each participant.

This research relied on in-depth interviews for data collection. The interview was composed of broad general open-ended questions and several sub-questions with probes, allowing participants to reflect on their social, physical and psychological health, and mobility including their accounts, descriptions, and interpretations of them. Compared to focus groups, individual interviews permit more sensitivity to the private nature of physical and mental health information. The interview guide contained questions that inquired about older women's perceptions and potential experiences of social isolation, health, and mobility (see Appendix C). In total, 20 audio-recorded interviews were conducted, each lasting between one to two hours. Participants received a $20 gift card in appreciation for their time.

Participants.

The criterion for subjects to participate was to be community-dwelling (ie. non-institutionalized), adult women over the age of 65, who lived alone in Los Angeles County, had no documented cognitive decline and were able to understand and speak English for face-to-face interviews. The age 65 years was determined based on two factors: 1) it is commonly used as the

age at which one is considered elderly, and thus used as the age for determining eligibility for social programs (e.g. Medicare, and Social Security); 2) it is also commonly used as a characterization of older age in social research and therefore useful in making comparisons among studies.

Data collection.

Research site and context. Participants were recruited from an organization based in southern California, the Motion Picture Television Fund (MPTF), which serves a large population of older adults, including some who are socially-isolated. Launched in January 2017 with support of the AARP Foundation, the MPTF created The Daily Call Sheet (DCS) program that serves as a preventative measure in reducing the incidence of social isolation and loneliness. The DCS program is a telephone-based, volunteer-driven program designed to provide opportunities for social connection to socially-isolated or older adults who are lonely. The DCS program facilitates regular telephone conversations between trained volunteers and participating call recipients. These regular calls provide an opportunity to socialize with an interested individual, who has grown to know their routines and serve as a check-in for those needing additional social services. MPTF promotes the program to their members on their website, at various on and off-campus events, via a recruitment video underscoring the rising trend of social isolation and loneliness, quarterly mailed newsletters, and by word of mouth by MPTF staff. MPTF social workers also identify and refer many program participants through their intake process. Once identified by the DCS program, potential recipients undergo an in-take interview administered by the DCS Director. The in-take evaluates health, access to various resources, and collects other measures of overall well-being.

Recruitment and sampling. During the data collection period (January 2019 - May 2019), the program had 140 active participants. The Director of the DCS program identified 37 eligible participants based on inclusion criteria provided by the researcher, and other pertinent information such as if a program participant was currently hospitalized and unavailable by phone. The recruitment process included phone calls directly to eligible participants which were made from the MPTF campus. This strategy was useful when eligible participants felt the need to verify the legitimacy of the researcher's inquiry by requesting to speak to the DCS Director. The researcher's call script included a statement confirming that participation was voluntary and would have no effect on their participation in the DCS program or with any other MPTF benefits they received.

Instruments. An interview guide with a series of open-ended questions was used (see Appendix C). The overarching question was: how do older women understand their social well-being and mobility? The aim was to elicit the meanings of, obstacles to, and opportunities for social contact. Questions were related to social life, mobility, and their intersection:

Social Life

1. Describe important relationships in your life?
2. Do you use the Internet in any way for social purposes? If so, in what ways?

Mobility

3. How did you come to live in this neighborhood?
4. Where do you go in your neighborhood? Outside of your neighborhood? Why?
5. Tell me about how you get around in and outside of your neighborhood?

Intersections

6. What kind of interactions do you have with inside and outside of your neighborhood?
7. What would you like to be different about your mobility patterns?

Participants were provided a written copy of their interview transcripts and asked to contact the researcher with any revisions and/or corrections regarding accuracy. Based on need, a second

interview was scheduled with select participants to verify interview details and to address questions regarding the accuracy of specific quotes.

Epistemological frame.

The researcher took an interpretive or constructivist worldview, which assumes that there is no single observable reality. Rather there are multiple realities or interpretations of a single event. This approach views social reality as constructed through ongoing actions and subjective meanings attributed to these actions and allows research participants to interpret this reality in their own words rather than those of the researcher (Merriam, 2009). This approach can provide meaningful data on how women may experience social isolation, their mobility, and their intersection by focusing on the insider's worldview. This approach describes the meaning of the lived experiences for individuals regarding a phenomenon (Creswell, 2007). The approach assumes that an essence or essences exist within a common experience (Patton, 2002). Thus, those with similar lived experiences will have overlapping understood core meanings or essences.

***Phenomenological approach*.** Given the interacting nature of qualitative studies, the researcher will be the instrument in creating the research questions that explore the meaning of the participants' lived experience and in collecting data. The researcher will pay attention to self-reflection on the phenomenon of interest (Creswell, 2007) and derive an interpretation of the data. A researcher must fully acknowledge the meaning participants give to their lived experiences; the interpretation cannot be solely that of the researcher (Geertz, 1973). Thus, the phenomenological approach centers on the common elements in the descriptions of participants' experiences (Moustakas, 1994). Using in-depth interviews as a data collection method, the researcher allowed the subjects to describe their experiences and their meaning.

Protection of human subjects.

Women at risk for social isolation represent a vulnerable population. To the fullest extent possible, participants were made to understand the benefits and risks of participating in the interview with ample assurance that their identity would be protected through confidentiality. They understood that they could stop the interview at any time and withdraw from the study at any point. To protect the confidentiality of participants, the names of individuals were not used in notes; instead, pseudonyms and codes were used. Identifiable data were coded and stored in an encrypted, password-protected personal computer. At the completion of the study, any documents were destroyed. The study was reviewed and approved by the UCLA Institutional Review Board.

Data analysis.

The interviews were transcribed verbatim following their completion and entered into Atlas.ti 8.1, a qualitative analysis software, which enabled comprehensive analysis as well as efficient storing and retrieving of data. After reading the interview data thoroughly, transcripts were open-coded line-by-line. Open coding is a means of managing, locating, identifying, and sorting data found in the transcripts (Creswell, 2007; Patton, 2002). To retain authenticity, codes used the same words used by participants to create a codebook. Next, codes within the codebook were refined and clustered into categories or families (Bazeley, 2013). Next, the final categories or "families" were placed into a matrix, which allows for comparing and contrasting to identify higher-level themes across families. Then, themes were refined with additional comparing and contrasting. All interview data were analyzed together in a bottom-up formation, and data analyses were conducted concurrently with data collection. The matrix was then used to identify rich and exemplary data within each theme. All memos and field notes served as audit trails and

were revisited throughout the analysis (Patton, 2002). The final product brought forth the essence of the topic of interest (Creswell, 2007), which in this case included the participants' perceptions and experiences of mobility in relation to their social life.

Rigor and trustworthiness.

According to Padgett (1998), there are six strategies that qualitative researchers should follow for enhancing rigor, each addressing one or more threats to trustworthiness. The first strategy utilized in this study was member checking (Lincoln & Guba, 1985), which involved verifying interview details and validating the accuracy of the experience (Creswell, 2007). To accomplish this goal, each participant was provided a written copy of their interview transcripts, and if requested, an audio copy of the interview. Within two weeks of receiving this copy, participants were asked to contact the researcher with any revisions and/or corrections regarding the accuracy of what was written. They were additionally informed that they could delete or remove any part of the interview if they so desired. Participants were provided an addressed envelope with paid postage to return the transcript. Lastly, the researcher called select participants to verify interview details or to address questions regarding specific quotes. These follow-up interviews were based on need; therefore, not all participants were contacted.

Second, to ensure that others can confirm findings, an audit trail (Padgett, 1998) was maintained by documenting each step taken in data collection and analysis. The components of the audit trail include the raw data field notes, interview transcripts, along with notes and memos regarding decisions made during data collection, coding, and analysis. While the audit trail does not allow exact replication, it enhances reproducibility, in which another researcher may be able to use the audit trail to reproduce and verify the findings (Schwandt & Halpern, 1988).

Third, reflexivity was used to enhance validity (Cohen & Crabtree, 2006; Creswell, 2007). Epoché is the first step for conducting a phenomenology study (Zaner, 1975). It refers to a critical stand of researchers that requires them to take nothing for granted (Creswell, 2007; Moustakas, 1994). Further, the data is presented in the participant voices to the fullest extent possible by setting aside all preconceived notions and "bracketing" personal experiences (Merriam, 2009). During the interviews, the researcher avoided assumptions, judgments, and values as much as possible which were reflected upon and documented in memos. By utilizing reflexivity, the ability to separate perceptions and biases of the researcher is enhanced throughout the data collection and analysis processes (Lincoln & Guba, 2003).

Results

This purposive sample consisted of 20 adult women whose ages ranged from 65-94 with an average age of 81.6 and a median age of 80. The majority of women (7) had an income between $40-50,000 per year, a smaller number (6) had an income between $20-30,000 per year, two women had an income of $20,000 or less, while one woman's income exceeded $100,000 per year. Just over half (12) owned their home or apartment, and the median number of years spent in their current residence was 36 years. The majority were widowed (14), a smaller number were never married (4), one was divorced and one was currently married but their husband resided in an assisted living facility. All but one were White or Caucasian, and none identified as Hispanic/Latino. Just under half graduated from high school (7), and a smaller number went to vocational school or some college (5). Table 6 presents mobility data including the availability of a personal vehicle, their use of the vehicle, and type of mobility aid if used. All but one had once held a driver's license; however, less than half currently drove (8). Slightly less than half had a vehicle but no longer drove (7). The majority did not utilize any mobility aid (12). Those that did

use a device primarily used a walker (5), and some used a walker in combination with a cane (3). One utilized a baby stroller in place of a walker to keep balance while also carrying goods (see Table 6).

Table 6: *Mobility Data (N=20)*

Personal Transportation Status	**ID**	**Age**	**Mobility Device**
Has a Car & Drives	BC	65	None
	TN	76	None
	CR	77	None
	HR	77	None
	JB	80	None
	PM	80	None
	GZ	88	None
	ZW	88	None
Has a Car & Does Not Drive	ET	78	None
	SK	78	Cane
	NC	83	Walker
	BA	85	Cane
	RG	90	None
	PJ	91	None
	LK	92	None
Does not have a Car & Does Not Drive	WT	68	Baby Stroller
	AB	80	Walker & cane
	NM	83	Walker & cane
	VG	94	Walker
Never Drove	YF	79	Walker & cane

The themes that emerged from these interviews were: 1) Experiences of loss over time, 2) Mobility & social well-being, 3) Importance of neighborhood accessibility, and 4) Significance of neighbors & neighborhoods. The second theme regarding mobility had several subthemes including a) Personal vehicles & isolation, b) Family members & transportation, c) Public transportation for older women, and d) Door to door transportation use.

"My friends are all gone…": Experiences of loss over time

Participants had a range of experiences and perceptions of their social lives. Many of the women felt some social isolation in their lives; however, their evaluation differed. Some appeared to be satisfied with their lives despite being solitary, while others were more distressed. For those who were satisfied, they compared their current life in contrast to what it once was, one woman saying, *"I'm very content to stay home, I had a very busy life" (NC, age 83-Non-Driver).* Time spent at home was appreciated, some relishing the long-anticipated time to spend on activities for which they previously had no time to enjoy:

> *"I just love my home. I have everything I love here. I have my books, I have my TV... and I read…I have so many magazines…I was never able to read those magazines…So I'm reading those from 1987. [chuckle] They have such wonderful stories in there" (BA, age 85-Non-Driver)*

This participant reflected back to a time when she was depressed and overwhelmed with her duties as a caregiver. She expressed joy in having the ability to participate in leisure activities at this time in her life.

Alternatively, some women expressed dissatisfaction with their level of social contact, some even sharing feelings of loneliness. How this isolation occurred varied from changes in social network availability, and sometimes as a result of death. These older women struggled to be social because they felt they had no one to be social with. For some women, a lack of social contact was due to the loss of friends and family who had moved away or died. Those who maintained social contact with those who moved away expressed some satisfaction with phone calls but this contact was not always sufficient. Both younger and older women shared the experience of losing friends *"…I feel-I feel my world getting smaller and smaller…"* (CR, age 77-*Driver*); for younger women, isolation was typically due to friends moving away. The loss of friends was acutely presents for some older women because they had outlived the friends they

once had; one 92-year-old woman shared, *"To me it's depressing… I'm too alone. I can't handle it" (LK, age 92-Non-Driver)*. In addition to no longer having friends, another woman who had recently lost both her husband and caregiver daughter was then left with no family or friends.

> *"I don't even wanna be here anymore...I'm by myself, I'm very lonely, I have nobody to talk to all day, my friends are all gone…" (RG, age 90-Non-Driver)*

Being alone for these two women in their 90's was more than social isolation; their loneliness was also related to being alive after everyone in their lives had passed away.

Though contact with others over the phone was welcome and appreciated, when social contact was desired, face-to-face contact was the preference but was not achievable for a variety of reasons. Life circumstances such as loss of family and friends and physical health or disability were most often related to feelings of social isolation. However, many women also struggled with socializing because it necessitated travel outside the home, which presented challenges. Mobility presents a variety of challenges and was noted as a barrier to being socially active.

"Just because we're senior[s] doesn't mean we don't have a life": Mobility & social well-being.

When asked about their mobility, participants noted a variety of ways of getting to and from their homes to accomplish their daily activities, and to some degree, meet their social needs. Their ability to be mobile included: Driving themselves, riding as a passenger, or using public transit, paratransit, and ride-share use. Individual factors such as personal health interacted with their mobility ability. For those who had a car and could drive themselves, this was the preference, though many had altered their driving patterns or stopped driving entirely. Family members and public transportation were largely utilized to meet their basic needs but not for socializing. With limited transportation, some walked in their neighborhoods for health, which created opportunities for social interactions.

"…You're a prisoner if you can't drive..." **Personal vehicles & isolation.** Driving themselves was the preferred mode of transportation, though a little less than half (40%) of participants had a car and continued to drive. For those who still drove, changes in driving behavior were common. Driving provided independence, however, it was most often restricted. As one woman stated:

> *"Well lately…I drive when I must. It makes me nervous. I drive just really close by, I just go straight down ____ Boulevard. I don't go inland or outland. I just go one way" (BA, age 85-Driver)*

In addition to restricting driving to familiar areas, others only drove during specific times of the day; one woman shared, *"I prefer to drive in the afternoon, you know?" (TN, age 76-Driver)*. By restricting when and where they drove, these women were often limiting themselves to accomplishing what they considered necessary, such as doctor's appointments and grocery shopping. With limited times of the day and locations they felt comfortable driving to, social activities such as going out to eat, or movies were the first to be abandoned.

Driving cessation was also common, with over half (55%) no-longer driving, largely due to health reasons. Those without the ability to drive or walk sufficient distances recognized challenges in meeting their basic needs, and the effect mobility limitations had on their social lives. One participant who had recently recovered from a broken hip and regained her ability to drive lamented on the severity of her short-lived inability to drive herself:

> *"[It] took at least two months. It was horrible. I feel sorry for people with chronic conditions, I healed but that's not everyone's experience. I mean living in the hills, you-you're a prisoner if you can't drive..." (JB, age 80-Driver)*

This woman, having a variety of resources including financial means, a personal vehicle, and family living nearby, nonetheless felt like a 'prisoner' in her own home. Living in a secluded and mountainous area of Los Angeles with no public transit, essentially obstructed her from leaving

her home. Though her disability was short-lived, it was an eye-opening experience, forcing her to recognize the significance of a walkable neighborhood in meeting basic needs.

Living without a car limited some women's ability to see friends and family as easily; one participant had forecasted this very situation when friends informed her they were moving away:

> *"...I have some friends out there [Palm Springs, CA], they don't drive. I don't drive.... And I told them, 'Don't move out that way. We won't see each other', but they moved out there... Her husband recently passed and I'd really like her to be able to get out of the house…but she's stuck, I'm stuck…"(NM, age 83-Non-Driver)*

Without a car, this woman was at a loss to adequately support her friend during this challenging life transition, nor could she sufficiently fulfill her own social needs.

Limitations in driving ability affected a participant's ability to attend to her basic needs but also significantly affected their social lives. Though lack of driving limited their ability to meet basic needs or to be social, some identified alternative forms of transportation.

"I don't want to interfere with their lives, they're busy": **Family members and transportation.** Some were able to depend on family or friends for their mobility needs; however, participants appeared to utilize them solely for what they deemed as necessary, such as doctors' appointments and grocery shopping. When it came to their social needs, they did not want to be a burden to their family members. A recent widow shared that her daughter took her where she needed to go. Though this participant had a car and was able to drive if necessary, she preferred to travel as a passenger. She revealed: *"I have to be strong…I don't want to bother her…" (HR, age 77-Driver).* She expressed not wanting to burden her daughter further for things she felt were less important, namely her social life. Half of the participants no longer drove, and many family members were either not present or not sufficiently available to serve their mobility

needs. Those who did not drive and had no family or friends readily available to assist them sought other forms of transportation.

"I just gave up!": **Public transportation for older women.** There are various forms of public transportation available in Los Angeles; however, they were not commonly used. Of those who lived in areas where public transportation was readily available, only a few utilized it and rarely for social purposes. Participants shared their experiences regarding reliability, schedules and safety concerns.

In an attempt to attend a weekend volunteer event, a participant found that the bus never arrived. In addition to lack of reliability, others felt the schedule did not cater to senior needs including safety for getting on and off the bus, and finding a seat. In addition, one woman shared that the media did not paint a positive picture for older women's safety on the rail:

> "*A woman in her 60s was raped by a homeless man...one of those [Metro rail], you know, the metro lines? And she was brutally beat and raped. It was on the news!" (BC, age 65-Driver)*

Despite having the ability to drive, this participant expressed a desire to utilize public transportation but was dissuaded due to safety issues. After driving is no longer an option, public transportation appears to be an option for some; however, its evaluation was far from ideal with safety being their highest concern. Perhaps addressing such safety concerns, some women felt door-to-door transportation was preferable. Paratransit and ridesharing, however, presented their own set of challenges.

"I'm afraid…": **Door to door transportation use.** Experiences with paratransit (Access) were mixed, some sharing that it was useful for getting to their appointments despite the time requirements and need for reservations in advance. Those who utilized Access never used it for social purposes. Alternatively, ride-sharing concierge services such as

GoGoGrandparent were utilized by some, particularly by those with less financial limitations. Participants were more likely to utilize rideshares for social purposes compared to paratransit. In addition, for some there was an opportunity for socializing with the driver themselves, "*It was good. It was great. The guy was great. He chatted the whole time. [laughing] He was cute, young guy. But that was the only time I was in an Uber" (JB, age 80-Driver).* Some women were avid users, with utilization ranging from utilitarian to social. Though most did not use ride-sharing services for a variety of reasons; concierge services like GoGoGrandparent was convenient for those without smart-phones or comfort in using the Internet:

> *"...I put it under R for rides… grandma grandpa or something? And they will send a car…and I hobble out there, and I get in the car…I don't like to deal with...smartphones [laughing]" (NC, age 83-Non-Driver)*

Though ride-shares were used by some, safety again surfaced as a concern, with multiple women citing news stories *"… I'm afraid…because I've heard so much on the news about all these things about Uber drivers"* (GZ, age 88-*Non-Driver*).

When driving was no longer an option, finding alternative transportation was necessary for meeting basic needs. Alternative transportation was found in a variety of forms from riding as a passenger, public transportation or door-to-door transportation however all had drawbacks. Without a private vehicle, participants were less likely to participate in social activities. When asked about their neighborhood built environments, walking was shared as a common form of mobility. Compared to motorized transport, walking facilitated more social opportunities.

***"It got me through the weekend…":* Importance of neighborhood accessibility.**

These women were not able to attend to their basic needs through walking; however, they did walk in their neighborhoods for physical activity, dog walking, and to get out of the house. Most of these women lived in their current neighborhoods for decades and developed

relationships with neighbors over time. For some, the purpose of walking in their neighborhood was for physical health, but it was also a means of maintaining a connection with their neighborhood and neighbors.

When they were physically able, most women walked for physical activity; some did so even when sidewalks were unavailable or deemed unsafe. For example, one participant felt it was important to get out of her house and to exercise despite a recent fall:

> *"I still walk around the neighborhood… I'm careful though…you can't just look down...you gotta look for cars too [laughing]. I see quite a few of the neighbors. We wave at each other, you know?" (JB, age 80-Non-Driver)*

Participants often noted, notwithstanding fear of falling or cars driving too fast around them, when they were able, that walking gave them something to do – a reason to leave the house. In addition to exercise, pets emerged as facilitators of social interaction within the neighborhood. One woman shared that because of her dog, she met and spoke to people in her neighborhood.

> *"…I end up talking to people, yeah. And he has his friend that gives him treats. He knows the route more than I do [laughing], he's like, "I'm ready to go now, Mom. Time for treats!" (SK, age 78-Non-Driver)*

The obligation to walk her dog presented unplanned benefits, that of spontaneous and regular social interactions with those in her neighborhood. Though these interactions were brief, they nevertheless presented an opportunity for further and more meaningful social interactions.

Unexpected benefits were also found through a chance meeting through a grief group. A participant had met an '*older gentleman'* who lived in her neighborhood with whom she started walking regularly. Though she was not sure about this new presence in her life, she did admit it was good for her:

> *"… whenever I can, I'm gonna walk with him because he's good motivation for me. … last weekend… I was really depressed and having that to look forward to… it was good…it got me through the weekend." (ET, age 78-Non-Driver)*

Despite the tentative nature of the relationship, she understood that she needed social contact and resolved to continue the weekly walking activity. Unfortunately, the presence of a walking partner was uncommon for this group of women, and many others stated that even if physically able, they did not feel it was a safe option for them:

> *"…I'm afraid that sidewalks are not that great. Some places you have a great big cracks, [they're] not level… so I just figured I'll be safe if I just walk around the backyard" (AB, age 80-Non-Driver)*

The fear of falling while walking in their neighborhoods was a concern frequently shared, and for those with a backyard, choosing this location out of fear of falling, excluded them from potential social interaction with neighbors. Fear of falling was the most common explanation for lack of walking, which was likely associated with personal health reasons and mobility limitations. One woman, still grieving her husband, shared that she knew she needed to leave the house, but was afraid of the danger it posed:

> *"… I'm afraid, it's dangerous going to the store by myself, maybe I'll fall and...You know, falls are dangerous...I have two girlfriends that died from a fall" (RG, age 90-Non-Driver)*

Another participant in a similar situation shared:*"…because if I fall, nobody'll know I'm on the ground." (PJ, age 91-Non-Driver).* Living alone and now having no one checking in on them, these women feared the very real consequences of a fall.

Participants shared a variety of transportation options each chosen based on a unique set of factors such as personal health or safety concerns, all of which interacted with their mobility and ability to be social. If a safe walking environment was available, walking provided an opportunity to engage in a healthy activity, and enabled opportunities for social engagement with neighbors. In comparison to long-distance travel, social interactions closer to home were more common, particularly with neighbors.

"It's nice that somebody is there…": **Significance of neighbors and neighborhoods.**

Most participants had lived in their current residence for long periods (median 36 years), and shared stories of social interaction and relationships with neighbors. While some appeared to be very close to their neighbors, others felt more disconnected, particularly with newer neighbors.

Some participants shared that their neighbors were supportive and engaged, which they enjoyed. They happily shared knowing multiple generations of families on their street; they knew many of the neighbors and considered them as close as family members. One woman shared that the neighbors or their young children would knock on her door if they had not seen her for some time, sharing:

> *"If they [neighbors] don't see me for a few days. They knock on the doors or text me, "Are you okay? You need anything, Grandma ____?" [laughing] They all call me Grandma" (GZ, age 88-Driver)*

Living in one area for an extended period of time, where neighbors frequently engaged with each other appeared to make a difference in some women's lives. This level of kinship among neighbors was not universal; however, other women shared that neighbors, though not friends, were 'neighborly'. Some women shared that though they did not engage with neighbors often, that these relationships were often supportive: *"... she's there when I need her in a pinch. If something was wrong, I would call her. It's nice that somebody is there…" (ET, age 78-Non-Driver).* For some women, relationships were less established, yet there were small acts of kindness. One woman gratefully recounting: *"...my neighbor brings the newspaper up to, I do the crossword puzzles in the morning" (AB, age 80-Non-Driver).* Though they rarely had long conversations, every day her next-door neighbor brought the newspaper from the driveway to her doorway, knowing she had difficulty with walking. Despite the lack of established relationships

with neighbors, there appeared to be some benefit to knowing their neighbors were there if needed, or 'in a pinch'.

Some women were cognizant of the changes that had occurred in their neighborhoods over time. Particularly for older women with longer residence, neighbors they once socialized with had moved away or died and were replaced with people they never developed comparable relationships with. The presence of new neighbors was not necessarily seen negatively, but in many ways creating relationships with them was seen as challenging:

> *"…Unfortunately, all my neighbors that I knew are all gone…they've all gone with their great reward, but I've got all these young couples who are wonderful…But it's different, they're busy they are at work all day, and I'm retired…" (GZ, age 88-Driver)*

Some women desired to create relationships with their neighbors, finding that former tactics for socializing no longer existed. One apartment dwelling woman lamented:

> *"…that was how we first met because everybody did their laundry and they hung it out in the back and that's when you'd meet but now, nobody... [now] everyone has dryers and everything and nobody goes around and sees each other." (ZW, age 88-Driver)*

Given the variety of the mobility challenges shared, proximal and spontaneous socializing appeared to be ideal; however, *how* to be social often left these women at a loss. The families that replaced their former friends and neighbors were young and busy with their own families and work. Without familiar opportunities for socializing, such as children playing in common spaces, and doing laundry communally, some women struggled to socialize with others spontaneously.

Discussion

This phenomenological inquiry aimed to better understand the lived experiences of older women at-risk for social isolation, namely their perceptions of mobility in relation to their

opportunities to be social. The themes identified from these interviews were: 1) Social isolation despite mobility, 2) mobility challenges influenced deprioritizing social needs, 3) significance of neighbors and neighborhood accessibility.

The women in this study described their social lives along a spectrum: some assessed being alone as something welcomed and enjoyed, while others shared feeling isolated or lonely. Despite the range in experiences and perceptions of their social lives, they all shared risk factors for social isolation. Risk factors for social isolation include age, living alone, lacking adequate transportation, being new to the area (Osage & McCall, 2012), deteriorating physical health, and the death of a spouse (Osage & McCall, 2012; Victor & Bowling, 2012). The effect of and response to losing friends and family over time due to moving and death affected their social lives in various ways. Having no friends or family remaining independently, and in combination with mobility and transportation challenges, contributed to their isolation. Some had feelings of social isolation despite the ability to drive and or use public transportation. These participants had the ability to participate socially, however, their feelings of isolation were caused by losses in their social networks. This finding is consistent with previous research showing that though lack of transportation contributes to loneliness (subjective social isolation) (Smith, 2012); that isolation is more consistent among older adults who have outlived their spouses, friends, or other family members (Havens, Hall, Sylvestre, & Jivan, 2004).

The second theme identified was the deprioritization of social connectivity as a result of limited transportation options. Though social needs fall below basic physical and safety needs within Maslow's hierarchy of human needs (Maslow, et al, 1970), the absence of social well-being (i.e. when social needs are not met) can lead to social isolation. Given that social isolation is directly linked to health and mortality (Cacioppo, Hawkley & Berntson 2003; Steptoe, et al.

2013), the fulfillment of social needs is relevant for overall health. Despite the importance of social well-being, when given a choice participants placed basic needs such as doctors' appointments and grocery shopping ahead of connecting socially. Those who restricted their driving by the time of day or by route were also limited in their ability to participate socially. Similarly, when traveling as a passenger, participants felt unable to ask their children for transportation assistance in order to attend potential social activities. Participants did not want to be a burden to their family for anything beyond what they deemed necessary. It is a common occurrence for older women to feel a desire not to burden their family members, and this is particularly true for mothers with caregiver daughters, and more so for White versus Black mothers (Ward-Griffin et al., 2006).

Participants without the ability to travel by car sought alternatives. However again, the travel necessary for attending basic needs was prioritized. This was particularly evident when women described challenges with public transportation. For most, bus stops were not conveniently located, which was true regardless of the neighborhood in which they lived. Though some lived near a city center with seemingly available public transportation, and others in suburban areas with less availability, neither rail nor bus transit was used with any frequency. It may be that the distance to a transit stop is longer than what older women feel they can cover on foot. Urban planners typically assume that walking a one-quarter mile (1,320 ft) to reach transit stops or stations is accessible (Untermann, 1984; Southworth & Joseph, 2003). One of the rare studies on walking access to public transit found that most older adults consider half this distance to be their walking limit (650 ft or 200 m) (Neilson & Fowler, 1972). Additionally, public transportation became less attractive because of safety concerns, namely issues with balance, and challenges in finding or being offered seating designated for seniors and those with

disabilities. A lack of reliability and limited bus schedules during non-peak bus hours hindered ridership, too, so women less often attended social events during non-peak hours. Their transportation barriers, whether a result of self-imposed driving restrictions, desire not to burden their family members, or lack of accessible public transportation, appear to contribute to their de-prioritization of social life.

The third theme identified was the shrinking world of older women both socially and physically. Many women experienced limitations in mobility and transportation which affected their ability to be social in the ways they once were. In the search for ways to be social, we see that proximal neighborhood contact was sought in order to enable social connectivity.

Neighbors were significant in the social lives of these older women, regardless of their level of intimacy. For some women, relationships with neighbors were close, developing over decades of proximity and social interactions. For others, due to various reasons including neighborhood turnover, these ties were not as strong. Regardless of relationship strength with neighbors and ties with the neighborhood, the knowledge that someone was 'there' mattered. Many women shared knowing multiple generations of families in their neighborhoods with some of these relationships resembling kinship, which may be partially a result of their extended residence and structure of neighborhoods, including homeownership. Neighbors represent the most proximate social contacts, particularly for these women who live alone with few friends or family members (Cornwell, Laumann, & Schumm, 2008). Though neighborhood relationships like this occurred, it was more common for women to share stories of neighborly behavior. For example, neighbors periodically checking on them or sharing acts of kindness such as bringing up the newspaper to their door or small favors such as providing rides when need emerged. Having strong ties to neighbors facilitates access to informal aid, reduces a sense of isolation,

and may attenuate negative impacts of neighborhood disorder or disadvantage on health (Browning & Cagney 2002; Campbell & Lee 1992; Shaw, 2005).

In addition, neighborhoods represented a place where physical activity and spontaneous social interactions could take place. It is suggested that small social exchanges and familiar routines encourage older adult mobility (Franke et al., 2013; Yen et al., 2014). However, many participants lived in neighborhoods with uneven and broken sidewalks, while others noted the lack of sidewalks entirely, despite living in a city-center or suburban area. Though a few had fallen while walking alone in their neighborhoods, some persisted in walking for exercise and socializing. Women commonly express concerns regarding walking safety; the leading forms of injury include falls (77.5%) and being hit by a motor vehicle (15.0%) (Naumann, Dellinger, Haileyesus, & Ryan, 2011). However, the fear of falling is common among the older adult population, the prevalence in other studies ranges between 26% - 61% (Howland, et al, 1993; Howland, et al, 1998; Tinetti, Richman, & Powell, 1990). Strikingly, Howland et al (1993) found that more people were afraid of falling (26%) than were afraid of being robbed (17%) or of having financial problems (12%). Interestingly, some women noted that despite never having fallen, the fear alone caused them instead to choose to walk in their backyards. In line with this finding, Naumann, et al. (2011) also found that fear alone was a stronger predictor of nonparticipation in social activities than a history of falls, suggesting that fear may be just as serious a problem as the falls themselves. These concerns may also prevent neighborly exchanges and connections to the neighborhood. In addition to living alone, almost all of the women interviewed additionally had no one to walk with. No one would know if they had fallen on the street. This fear combined with the knowledge that their friends had or subsequently died from a fall outweighed the potential benefits of neighborhood social interaction.

Generally, older adults spend more time in the areas surrounding their homes compared to their younger and employed counterparts (Buffel et al., 2012). As older adults spend increasing amounts of time in their proximate environment, the neighborhood, as an experiential setting, increases in importance (Greenfield, 2016; Krause, 2006). Neighbors' importance rises as people become more "neighborhood-bound" (Lubben & Gironda, 2003, p. 325). Proximal social contacts are vital to older adults' wellbeing in terms of their social lives within their neighborhoods which makes addressing issues of accessibility (distance, reliability, and safety) paramount.

Theoretical implications.

Social capital pertains to mutually beneficial social relationships characterized by interpersonal trust and norms of reciprocity (Kawachi, 1999; Putnam, 1995). Older individuals exhibit more dependency on social capital within their communities (Klinenberg, 2002), because they risk losing it over time. The older women in this study were long-term residents increasingly influenced by their neighbors and the neighborhood environment. Walkable neighborhoods, as well as social spaces closer to home, may be a way to gain social capital (Forrest & Kearns, 2001; Gray, 2009). In these spaces, friends, and neighbors have become more prominent in the social networks of older adults, which used to be dominated by family ties (Phillipson et al., 2001). Therefore, the ability of older adults, as individuals, to secure benefits from their neighborhood or communities must be possible for their well-being (Buffel et al., 2012).

Social capital can be accrued via social connections and participation (Coleman, 1988). Particularly for those without proximity to family or friends, and those who faced mobility challenges, social capital was maintained or gained most easily through their neighborhoods.

Local social contacts may be an important resource for receiving social and instrumental support (Forrest & Kearns, 2001; Gray, 2009). Therefore, neighborhoods designed specifically for older women should become more of a priority as older women become a larger portion of the overall population.

For those who were less mobile, their accessible space, both physical and social, was often limited to within and surrounding their homes. The needs of those who are unable to access the larger neighborhood will also need to be prioritized. Naturally occurring social spaces such as porches and apartment lobbies may be important components of socialization later in life, providing older adults with opportunities for social interaction. This is associated with previous work that found public benches to positively contribute to social cohesion and social capital for older adults (Ottoni, Sims-Gould, Winters, Heijnen & McKay, 2016). Social spaces intentionally created for unplanned conversations and chance interactions within proximity may be increasingly important for older adults to gain social capital, particularly for those unable to access the larger neighborhood. Unplanned spaces for social interaction may be an important aspect of socializing, particularly as these women did not prioritize their social needs. Even small interactions contribute to social capital and may be viewed as a feature of a health enabling environment (Eriksson & Emmelin, 2013).

This research further highlights how the interplay between mobility and transportation challenges affects women's opportunities to be social. M. Powell Lawton's Ecological Model (Lawton & Nahemow, 1973) elucidates how various factors shape older women's opportunities to be social, by highlighting their dynamic interplay between nested systems (individual, *micro*, *meso, exo* and *chronos*). Some aspects of older women's lives may not be changed, such as limited mobility due to deteriorating health (individual level) or loss of friends or family over

time (*chronos* system). It appears that the interaction between individual factors and *exo* system factors (*meso* system) were significant for women's ability to continue being mobile. Declines in individual mobility challenges individuals' ability to meet the demands of the built environment (environmental press), such as sidewalk and crosswalk safety and relatedly public transportation accessibility. Therefore, individual competencies, such as limitations in physical mobility and challenges with balance, interacted with women's ability to meet the demands of the environment.

Limitations.

The population served by the DCS program participants and MPTF at large is largely non-Hispanic White and English-speaking. However, this represents potential limitations, since ethnic minorities and non-English speaking older women may experience social well-being and mobility differently.

Practice, Policy & Research Implications

The data gleaned from this inside understanding has practice implications for those working with older adults who are socially-isolated, or are at risk for social isolation, and can help inform policy for our growing older adult population, particularly older women. Practice and policy implications derived from this research include recommendations for interventions at the community and neighborhood level, and improvements regarding the neighborhood built environment and public transportation, which focus on accessibility for those with mobility limitations.

Practice.

Social interventions among community-dwelling older adults at risk for social isolation must focus on improving neighborhood and individual social capital. Walking is the most

accessible physical activity for older adults, and walkable neighborhoods may help replenish social capital. Thus, interventions must leverage existing relationships with neighbors and to facilitate walking connectivity. For example, walking with others will potentially alleviate the fears of walking alone and potential falls, while at the same time increasing social capital for both older women and the neighborhood as a whole. Built environment features such as broken sidewalks, unsafe curbs, and crosswalks additionally need identification and intervention by municipal agencies. Walking audits, performed by older women such as AARP's Walk Audit Toolkit (AARP Livable Communities, n.d.), may be advantageous both for their social and civic engagement, and opportunities for physical exercise and social interaction.

It may be advantageous for younger women (50-65), particularly those who may be at risk for social isolation in the future, to be made aware of the risks. Those at risk include those with limited family or social ties and those who are or may in the future serve as caregivers for partners or family members. Social workers working in the community and in human resources should produce awareness campaigns to shed light on the deleterious effects of social isolation. Further, interventions should address risk reduction by helping women bolster social participation and connectivity among this age group in preparation for major transitions such as retirement, loss of a spouse or moving. Further, community social workers should address social isolation risk among those without children, and those with estranged relationships with their children.

Policy.

Counties like Los Angeles, diverse in population and landscape, continue to face challenges in providing accessible transportation for older adults and those with disabilities. In the near future, many older adults will choose to stop driving and if alternatives such as public

transit, paratransit, and ride-sharing are not accessible because of availability, convenience, cost, and safety factors, aging-in-place may not be possible. Door-to-door service may be a viable option in the future. Two cities in southern California, Monrovia and Santa Monica (GoMonrovia and Mobility On Demand Every Day [MODE] respectively) are currently piloting paratransit programs by partnering with ride-sharing companies to better serve their population of older adults (LA Street Blog, n.d.). These public-private partnerships between Lyft and the municipal Departments of Transportation show early signs of success, particularly for those older adults with a fixed income (BigBlueBus, n.d.; City of Monrovia, n.d.). The County of Los Angeles is making improvements to its Metro rail lines; however, many older adults are unable to get to rail line stops. On-demand, door-to-door service which meets older adult needs in terms of accessibility, cost, and safety can substitute for rail and bus transportation, particularly in suburban areas, where public transit is not available.

The governor of California's Executive Order (N-14-19) calls for the creation of a ten-year Master Plan on Aging (MPA), which is currently underway. The MPA mission is to create a state plan, local blueprint, data dashboard, and best practice toolkit by October 1, 2020. Social well-being and mobility/transportation needs are aligned with the mission of the MPA which, among others, is working to provide a plan for services, livable communities, health, and well-being. A Workgroup for Aging is advising the development of a blueprint for adoption by local communities in the state including model policies and best practices. This blueprint, presently under development, and the MPA is open for input from community members and experts. Therefore, it is currently an opportune time to make the recommendation for public-private partnerships with Departments of Transportation state-wide. Los Angeles is primed for collaborations with for-profit ride-sharing companies; it has already shown initial success in two

cities in Los Angeles County. Further, funding for such innovative projects from the state is in alignment with the City and County of Los Angeles (PALA) recommendations which will further support these efforts funding to improve and expand efforts currently underway.

Future research.

Future research should consider how neighbors may provide social support to community-dwelling older adults. In consideration of the growing numbers of older adults who have no family to care for them, the prospect of non-kin peer support is crucial to examine. Further, interventions that capitalize on existing relationships between community members and older women may be advantageous, particularly those that focus on replenishing social capital and physical activity as well as reducing fall risks.

Conclusion

Historically, investigations of social well-being, including those of social isolation among older adults, have failed to highlight the numerous external factors that contribute to and interact with their individual capabilities to be social. Focusing on this intersection, this qualitative study elicited the meanings of, obstacles to, and opportunities for social contact among older women in Los Angeles. Women were limited by living alone, financial resources, and physical health affecting mobility. Consequently, proximal social contacts emerged as significant in the social lives of these older women. As this research demonstrates, individual factors put older women at risk and interact with *macro* level factors, such as that of the built environment and public transportation, which, in turn, interfere with their access to social connectivity and social capital.

References

AARP. 2015. Age Friendly Report: Inspiring Communities. Retrieved from: https://www.aarp.org/livable-communities/network-age-friendly-communities/

AARP. (n.d.). About Isolation. Retrieved from https://connect2affect.org/about-isolation/

Bazeley, P. (2013). Qualitative data analysis: Practical strategies. Sage.

Beenackers MA, Kamphuis CBM, Mackenbach JP, Burdorf A, van Lenthe FJ. Why some walk and others don't: Exploring interactions of perceived safety and social neighborhood factors with psychosocial cognitions. Health Educ Res. 2013;28:220–33.

Blumenberg, E., & Shiki, K. (2007). Transportation assimilation: immigrants, race and ethnicity, and mode choice (No. 07-2475).

Bronfenbrenner, U. (1994). Ecological models of human development. International encyclopedia of education, 3(2), 37-43.

Buffel, T., De Donder, L., Phillipson, C., Dury, S., De Witte, N., & Verté, D. (2013). Social participation among older adults living in medium-sized cities in Belgium: the role of neighbourhood perceptions. Health promotion international, 29(4), 655-668.

Burkhardt, J. (2003). Critical measures of transit service quality in the eyes of older travelers. Transportation Research Record: Journal of the Transportation Research Board, (1835), 84-92.

Cahill, E., Lewis, L. M., Barg, F. K., & Bogner, H. R. (2009). "You Don't Want to Burden Them" Older Adults' Views on Family Involvement in Care. Journal of Family Nursing, 15(3), 295-317.

Cattan, M., Newell, C., Bond, J., & White, M. (2003). Alleviating social isolation and loneliness among older people. International Journal of Mental Health Promotion, 5(3), 20-30.

Clarke, P., & Gallagher, N. A. (2013). Optimizing mobility in later life: The role of the urban built environment for older adults aging in place. Journal of Urban Health, 90(6), 997-1009.

Cohen-Mansfield, J., & Parpura-Gill, A. (2007). Loneliness in older persons: a theoretical model and empirical findings. International Psychogeriatrics, 19(2), 279-294.

Cohen, D., & Crabtree, B. (2006). Qualitative research guidelines project.

Coleman, J. S. (1988). Social capital in the creation of human capital. American journal of sociology, 94, S95-S120.

Cornwell, B., Laumann, E. O., & Schumm, L. P. (2008). The social connectedness of older adults: A national profile. American sociological review, 73(2), 185-203.

Courtin, E., & Knapp, M. (2015). Health and wellbeing consequences of social isolation and loneliness in old age. NIHR School for Social Care Research.

Creswell, J. W., Hanson, W. E., Clark Plano, V. L., & Morales, A. (2007). Qualitative research designs: Selection and implementation. The counseling psychologist, 35(2), 236-264.

Després, C., & Lord, S. (2005). Growing older in postwar suburbs: The meanings and experiences of home (pp. 317-340). Springer Publishing Company, New York.

Durkheim, E. (1897). 1951. Suicide: A study in sociology.

Durkheim, E. (1951). Suicide: A study in sociology (JA Spaulding & G. Simpson, trans.).

Evans, E. L. (2001). Influences on mobility among non-driving older Americans. Transportation Research Circular E-C026, 151-168.

Glencoe, IL: Free Press.(Original work published 1897).

Forrest, R., & Kearns, A. (2001). Social cohesion, social capital and the neighbourhood. Urban studies, 38(12), 2125-2143.

Franke, T., Tong, C., Ashe, M. C., McKay, H., Sims-Gould, J., & The Walk The Talk Team (2013). The secrets of highly active older adults. Journal of aging studies, 27(4), 398-409.

Fried, L. P., Ferrucci, L., Darer, J., Williamson, J. D., & Anderson, G. (2004). Untangling the concepts of disability, frailty, and comorbidity: implications for improved targeting and care. The Journals of Gerontology Series A: Biological Sciences and Medical Sciences, 59(3), M255-M263.

Horner, M. W., Duncan, M. D., Wood, B. S., Valdez-Torres, Y., & Stansbury, C. (2015). Do aging populations have differential accessibility to activities? Analyzing the spatial structure of social, professional, and business opportunities. Travel behaviour and society, 2(3), 182-191.

Gray, A. (2009). The social capital of older people. Ageing & Society, 29(1), 5-31.

Greenfield, E. A. (2016). Support from neighbors and aging in place: Can NORC programs make a difference? The Gerontologist, 56(4), 651–659.

Howland J, Peterson EW, Levin WC, Fried L, Pordon D, Bak S, 1993. Fear of falling among the community-dwelling elderly. J Aging Health. 5: 229-243.

Howland J, Lachman ME, Peterson EW, Cote J, Kasten L, Jette A, 1998. Covariates of fear of falling and associated activity curtailment. The Gerontologist. 38:549-555.

Kim, S. (2011). Assessing mobility in an aging society: Personal and built environment factors associated with older people's subjective transportation deficiency in the US. Transportation Research Part F: Traffic Psychology and Behaviour, 14(5), 422–429.

Klinenberg, E. (2002) Heat Wave: A Social Autopsy of Disaster in Chicago. Chicago: University of Chicago Press.

Kweon, B. S., Sullivan, W. C., & Wiley, A. R. (1998). Green common spaces and the social integration of inner-city older adults. Environment and behavior, 30(6), 832-858.

Krueger, R., & Casey, M. (2009). Focus groups: A practical guide for applied research (4th ed.). Thousand Oaks, CA: Sage Publications.

Geertz, C. (1973). The interpretation of cultures (Vol. 5043). Basic books.

Hawe, P., & Shiell, A. (2000). Social capital and health promotion: a review. Social science & medicine, 51(6), 871-885.

Kawachi, I., & Berkman, L. (2000). Social cohesion, social capital, and health. Social epidemiology, 174, 190.

Kihl, M. R. (1993). The need for transportation alternatives for the rural elderly. SAGE FOCUS EDITIONS, 162, 84-84.

Krause, N. (2006). Neighborhood deterioration, social skills, and social relationships in late life. The International Journal of Aging and Human Development, 62(3), 185–207.

Lawton, M. P. (1982). Competence (Vol. 7, pp. 33-59). environmental press, and the adaptation of older people. In MP Lawton, PG Windley, & TO Byerts (Eds.), Aging and the environment: Theoretical approaches.

Lawton, M. P. (1986). Environment and aging. Center for the Study of Aging.

Lincoln, Y. S., & Guba, E. G. (2003). Ethics: The failure of positivist science. Turning points in qualitative research: Tying knots in a handkerchief, 219-238.

Lubben, J., & Gironda, M. (2003). Centrality of social ties to the health and well-being of older adults. In B. Berkman, & L. Harootyan (Eds.), Social work and health care in an aging society (pp. 319–350). New York, NY: Springer.

Luanaigh, C. Ó., & Lawlor, B. A. (2008). Loneliness and the health of older people. International Journal of Geriatric Psychiatry: A journal of the psychiatry of late life and allied sciences, 23(12), 1213-1221.

Lynott, J., & Figueiredo, C. (2011). How the travel patterns of older adults are changing: Highlights from the 2009 National Household Travel Survey.

Macinko, J., & Starfield, B. (2001). The utility of social capital in research on health determinants. The Milbank Quarterly, 79(3), 387-427.

Malterud, K. (2001). Qualitative research: Standards, challenges and guidelines. The Lancet. 358: pp. 483-488.

Marshall, L. & Feldman, M. (2018). The Motion Picture & Television Fund (MPTF) Social Isolation Impact Project Daily Call Sheet Program Evaluation Report - Sept 2018

Mendes de Leon, C. F., Cagney, K. A., Bienias, J. L., Barnes, L. L., Skarupski, K. A., Scherr, P. A., & Evans, D. A. (2009). Neighborhood social cohesion and disorder in relation to walking in community-dwelling older adults: a multilevel analysis. Journal of aging and health, 21(1), 155-171.

Mick, P., Kawachi, I., & Lin, F. R. (2014). The association between hearing loss and social isolation in older adults. Official Journal of American Academy of Otolaryngology-Head and Neck Surgery, 150(3), 378–384.

Moustakas, C. (1994). Phenomenological research methods. Sage.

Maxwell, J. A. (2005). Qualitative Research Design: An Interactive Approach (2nd Ed. ed.). Thousand Oaks, CA: Sage.

Merriam SB. Qualitative Research: A Guide to Design and Implementation (2009) John Wiley & Sons, San Francisco, CA

Mollenkopf, H. (2003). IMPACT OF TRANSPORTATION SYSTEMS ON MOBILITY OF ELDERLY PERSONS IN GERMANY. IN: AGING INDEPENDENTLY. LIVING ARRANGEMENTS AND MOBILITY. Publication of: Springer Publishing Company.

Morrow, V. (1999). Conceptualising social capital in relation to the well-being of children and young people: a critical review. The sociological review, 47(4), 744-765.

Musselwhite, C., & Haddad, H. (2010). Mobility, accessibility and quality of later life. Quality in Ageing and Older Adults, 11(1), 25-37.

Nahemow, L. (2000). The ecological theory of aging: Powell Lawton's legacy. The many dimensions of aging, 22-40.

Naumann, R. B., Dellinger, A. M., Haileyesus, T., & Ryan, G. W. (2011). Older adult pedestrian injuries in the United States: causes and contributing circumstances. International journal of injury control and safety promotion, 18(1), 65-73.

Nicholson NR (2012) A Review of Social Isolation: An Important but Underassessed Condition in Older Adults. J Primary Prev 33: 137-152.

Osage, P. & McCall, M. (2012). Connecting with Socially-isolated Seniors. Healthy Professions Press, Inc. Baltimore, MA. ISBN-10: 193252973X

Patton, M. Q. (2002). Qualitative Evaluation and Research Methods (3rd ed.). Thousand Oaks, CA: SAGE

Perissinotto CM, Stijacic Cenzer I, Covinsky KE. Loneliness in older persons: A predictor of functional decline and death. Archives of Internal Medicine. 2012; 172:1078–1083.

Pettigrew, S., Donovan, R., Boldy, D., & Newton, R. (2014). Older people's perceived causes of and strategies for dealing with social isolation. Aging & Mental Health, 18(7), 914-920.

Phillipson, C., Bernard, M., Ogg, J., & Phillips, J. (2001). The family and community life of older people: Social networks and social support in three urban areas. Psychology Press.

Putnam RD. (2000). Bowling Alone: The Collapse and Revival of American Community. New York, NY: Simon & Schuster.

Putnam, R. D. (1995). Tuning in, tuning out: The strange disappearance of social capital in America. PS: Political science & politics, 28(4), 664-683.

Richard, L., Gauvin, L., Kestens, Y., Shatenstein, B., Payette, H., Daniel, M., ... & Mercille, G. (2013). Neighborhood resources and social participation among older adults: results from the VoisiNuage study. Journal of Aging and Health, 25(2), 296-318.

Ritter, A. S., Straight, A., & Evans, E. L. (2002). Understanding senior transportation: Report and analysis of a survey of consumers age 50. AARP, Public Policy Institute.

Rosenbloom, S., & Herbel, S. (2009). The safety and mobility patterns of older women: Do current patterns foretell the future?. Public Works Management & Policy, 13(4), 338-353.

Rosenbloom, S. (2004). The mobility needs of older Americans. Taking the high road: A transportation agenda of strengthening metropolitan areas, 227-54.

Satariano, W. A., Guralnik, J. M., Jackson, R. J., Marottoli, R. A., Phelan, E. A., & Prohaska, T. R. (2012). Mobility and aging: new directions for public health action. American Journal of Public Health, 102(8), 1508-1515.

Schaie, K. W., Wahl, H. W., Mollenkopf, H., & Oswald, F. (2003). Aging independently: Living arrangements and mobility. Springer Publishing Company.

Schwandt, T. A., & Halpern, E. S. (1988). Linking auditing and meta-evaluation: Enhancing quality in applied research. Sage Publications, Inc.

Smedley, B. D., & Syme, S. L. (2000). Behavioral and social science contributions to the health of adults in the United States. In Promoting health: Intervention strategies from social and behavioral research. National Academies Press (US).

Smith, G. C., & Sylvestre, G. M. (2001). Determinants of the travel behavior of the suburban elderly. Growth and Change, 32(3), 395-412.

Taylor, B. D., & Tripodes, S. (2001). The effects of driving cessation on the elderly with dementia and their caregivers. Accident Analysis & Prevention, 33(4), 519-528.

Thome, S. (1998). Ethical and representational issues in qualitative secondary analysis. Qualitative Health Research, 8(4), 547-555.

Victor, C. R., & Bowling, A. (2012). A longitudinal analysis of loneliness among older people in Great Britain. The Journal of psychology, 146(3), 313-331.

World Health Organization. (2015). World Report on Aging and Health. WHO Press, World Health Organization, Geneva Switzerland. ISBN 978 92 4 069481 1

World Health Organization. (2007). Global Age-Friendly Cities: A Guide. Retrieved from http://www.who.int/ageing/publications/Global_age_friendly_cities_Guide_English.pdf

Yen, I. H., Michael, Y. L., & Perdue, L. (2009). Neighborhood environment in studies of health of older adults: a systematic review. American journal of preventive medicine, 37(5), 455-463.

Zaner, R. M. (1975). On the sense of method in phenomenology.

Appendix C: Manuscript III - Interview Guide

Social Life

1. What does a typical 'day in the life' for you look like? [icebreaker]
2. Describe important relationships (i.e., people and organizations) in your life?
    a. In what ways do they support you? How might they do better to support you?
3. Do you use the Internet in any way for social purposes? If so, in what ways?

Mobility

4. How did you come to live in this neighborhood?
5. Where do you go in your neighborhood?
    a. Outside of your neighborhood? Why?
6. Tell me about how you get around in and outside of your neighborhood?
    a. Do you face any challenges travelling around your neighborhood?
    b. Do you face any challenges travelling outside the neighborhood?

Intersections

7. What kind of interactions do you have with inside and outside of your neighborhood
8. You shared earlier the places you visit regularly. What would you like to be different about your mobility patterns?
    a. What kind of daily outings do you want to have but cannot? Why?

Dissertation Conclusion

Current research evidence on social well-being, social isolation, and mobility among the older adult population draws upon work from a range of disciplines, but one without a clear message from a single body of work regarding this significant social problem. In order to fill this gap in knowledge, this dissertation approached the topic with a multi-dimensional lens which considered the interaction of individual and external factors that contribute to social well-being and social isolation. The multi-manuscript dissertation began with a literature review which presented a cohesive understanding of where the research stands regarding this intersection. This was followed by two studies of hard-to-reach populations of older women to understand their experiences and needs. Two questions were asked among two slightly differing groups of women; however, they were both socially-isolated or at risk of social isolation. The aim of the first qualitative study was to understand their social lives and any potential experiences of social isolation. The aim of the second qualitative study was to understand their social lives in the context of mobility and specifically to understand the meanings they made of, obstacles to, and opportunities for social contact. A summary of these three studies is presented in Table 7 below.

The findings from the literature review highlighted the potential for vastly different trajectories for older women's social lives compared to men. At the same time, a significant finding was that there were limited studies specific to women, which highlights the need for increased focus on women. Data on women viewed through an ecological lens revealed the importance of the intersections between individual characteristics including health, disability, gender and gender roles on social well-being, as well as the intersection between individual factors and/or social support and public transit, neighborhood characteristics, and third places.

The second manuscript looked to understand how older women at risk for social isolation experienced their social lives and interpreted their social well-being. These women primarily had low-income and fewer social contacts were more likely to be ethnic/racial minorities and faced more significant health challenges compared to those in the third manuscript. Many of these women's social lives were impacted by significant changes in health as well as losses of friends and family members over the life-course. Contrary to the social convoy theory, these participants illustrated that the trajectory of older women's social lives resulted in one or fewer social contacts; some only noting contact with social service workers or health care providers. This research highlights the significance of a single social contact.

The third manuscript sought to understand the meanings of, obstacles to, and opportunities for social contact among older women at risk for social isolation. These women were more likely to be mobile, in better health, have higher incomes and identify as White or Caucasian compared to those women in the second manuscript. Findings similarly revealed the significance of social isolation caused by losing friends and family due to moving or death. The research further illustrated the importance of mobility within neighborhood environments, and that neighbors were both important and most likely to offer social connections. This research points to the importance of strengthening social ties and addressing mobility barriers within the neighborhood as well as addressing public transit needs.

Dissertation Implications

Social work practitioners, policymakers and researchers are currently searching for ways to promote older adults' well-being and independence. This dissertation addresses several gaps, particularly for older women. Numerous recommendations for practice, policy and research are made based on these three studies, which are summarized and presented below (see Table 7).

Table 7: *Dissertation Results & Implications*

	Results	Discussion	Implications	
Manuscript I:	• Individual characteristics: Physical & mental health, disability, gender, income,	• Individual characteristics influence social well-being and mobility	Future Research	Regional study of social well-being among older women including assessment of rural, suburban and urban area, walkability & transportation options, perceptions of safety in the environment for both the built environment and in terms of crime
	• Individual & Micro: Social support	• Individual characteristics interact with factors in other systems that influence social well-being and mobility (meso system)		
	• Individual & Exo: Neighborhood cohesion & disorder			
	• Individual & Exo: Neighborhood [both built and social], public transit, third places			
	• Individual & Macro: Gender roles			
Manuscript II:	• Individual factors: Health early and later in life, depression, personality characteristics, linguistic & cultural barriers, income	• Individual factors influence social well-being	Practice	Identify risk factors at medical discharge. Connect patients with community resources and continue to monitor
	• Without family or friends, replaced by ephemeral social contacts such as social services	• Available contact versus the family contact and their significance	Practice	Identify isolation risk factors among female caregivers and refer to support groups and respite
			Policy	Using funds through the renewed Older Americans Act (OAA), current programs should be evaluated, and novel programs created
	• Women as caregivers		Policy	Recommendation to Purposeful Aging Los Angeles and Master Plan on Aging for Village to Village movement
	• Neighbors & neighborhood contacts		Future Research	Identifying and understanding capacity for improving social connectivity at non-traditional locations,

				differences in MOW program delivery and the relationship between individual delivering meal and recipient, and ethnic minority caregivers
Manuscript III:	• Experiences of loss over time	• Loss of friends and family due to moving or death	Practice	Build social capital, civic engagement and physical exercise by facilitating neighborhood walking groups and performing walking audits to improve walkability
	• Mobility & social well-being	• Driving cessation common due to health concerns • Public transit not accessible, reliable or convenient. Paratransit not used for social purposes	Practice	Community and human resource social workers to create awareness campaigns to education younger women about social isolation. Improve social participation and connectivity prior to major transitions (retirement, moving, death of a spouse)
	• Importance of neighborhood accessibility	• Fear of falls when walking in the neighborhood while alone hindered physical activity, spontaneous social interactions, and access to public transit	Policy	Recommendation to California's Master Plan on Aging (MPA) to recommend cities create public-private partnerships such as with Departments of Transportation and ride-sharing companies to provide subsidized, door-to-door transportation
	• Significance of neighbors & neighborhoods	• Many were limited in mobility to area around their residence • Regardless of type of relationship with neighbors, women valued having someone 'there'. Even small acts of kindness were important	Future Research	How neighbors provide social support and ways to increase it, particularly increasing social capital, physical activity and reducing fall risk

Taken together, various practice implications were identified for social workers in medical, community and human resource settings. It will be important for medical social workers to identify patients with risk factors for social isolation particularly at discharge from the hospital or nursing home. At-risk patients should be connected with the appropriate resources such as home meal-delivery, available social isolation interventions, transportation assistance, and should be periodically monitored for changing needs. As a preventative measure, younger women ages 50-65 should additionally be educated on the risk factors for social isolation as well as measures available to them to reduce this risk. Significant changes such as serving intervention points: when women assume caregiver roles to an older family member, retirement or loss of a spouse. In addition, women currently in those roles should be referred to support groups and respite programs. Lastly, for those serving socially-isolated or at-risk older women residing in the community, it is important to help facilitate individual and neighborhood engagement. Connecting and supporting community member walking groups will facilitate social engagement as well as physical activity. In addition, walking audits guided by models provided by AARP and reported to city stakeholders may both improve walkability as well as civic engagement by older women.

Federal and state policy recommendations were also made. The OAA was reauthorized in late 2019 with a fiscal increase to all programs and an additional emphasis on social isolation. Funding made available to municipalities and community-based organizations by the U.S. Department of Health and Human Services represents a significant initial step towards addressing this issue. Programs currently in place should be evaluated and novel programs are developed to reduce social isolation. Next, California and Los Angeles County are in the midst of making significant plans for addressing the needs of older adults. This creates an agreeable

political climate in which to make recommendations to address social well-being and mobility. The first recommendation is to support an increase in the creation of Villages. The Village to Village movement is created and run by community members and thus helps older adults age-in-place but additionally supports social connectivity and community and individual agency. The second recommendation is for cities to improve door-to-door transportations for older adults. For example, blueprint currently in formulation by California's Master Plan on Aging (MPA) should consider public-private partnerships between Departments of Transportation and ride-sharing companies. These partnerships should provide subsidized, door-to-door transportation as an alternative, or in addition to current paratransit services.

This research presents an initial step toward understanding the experiences and needs of older women at risk for social isolation. More in-depth research is necessary, including ethnographies such as Myerhoff's "Number our Days", those with randomized samples, as well as longitudinal studies. It is recommended that regional or national studies of older women's social well-being and mobility be conducted. Future scholars should take the built environment into consideration as experiences vary greatly due to the characteristics of where they reside. In addition, they should include older women's perceptions of walkability and safety, as well as the area where data was collected (urban, suburban, rural). Social connections can be made in a variety of locations, from the neighborhood to non-traditional places such as dialysis centers and apartment lobbies. Future research should, therefore, identify and understand the capacity for improving social connectivity in these locations.

The topics of social isolation and mobility have been recognized on the global, national, state and regional level; however, significant work stands before us. As we sit on the precipice of a significant global demographic shift towards aging, an urgent and decisive response is needed

to ensure the well-being of our older adult population. It is hoped that this research serves as a platform from which future social isolation research may grow. Given that aging is our shared fate, and social well-being is an integral part of the human experience; it is also our shared responsibility to address this social problem.