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Social Isolation Risk Among Older Adults Who Live Alone

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Walden University
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Abstract

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MS, Walden University, 2014

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

As individuals age, their likelihood of experiencing mental and physical problems increases, as does their risk of developing social isolation. Behavioral, physiological, and/or psychological changes are common manifestations of social isolation. Increased morbidity and mortality are the outcome. Ecological systems theory and social baseline theory provided the framework to explore 10 older individuals' perceptions of risk for social isolation and their perceived barriers to social integration. Data for this interpretive phenomenological study were collected from participant diaries, interviews, the 6-item de Jong Gierveld Loneliness Scale (DJGLS-6), the Lubben Social Network Scale 6 (LSNS-6), a demographic survey, and a social support profile. The Colaizzi method and interpretive phenomenological analysis were used to analyze diaries and interviews. Participant demographics, DJGLS-6, LSNS-6, and social support profile data were used to enrich descriptions of the participants and find other themes. Results indicated that most participants like living alone. However, more than half reported periods of loneliness and 4 reported estrangement from an offspring. Experiences of negative age-related treatment were described by many participants and most reported that transportation and mobility issues were the biggest barriers to social integration. Additionally, many participants reported that access to planned social activities would alleviate social isolation. Implications for positive social change arise from this research in the form of increased awareness of the experiences and perceptions of older individuals at risk for social isolation. Additionally, these findings can inform future research, policy change, and strategies for social isolation interventions and prevention.

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Dedication

This dissertation is dedicated to my father, Frank J. Lukes Jr., the study participants, and those who will benefit from this research.

Acknowledgments

Many people contributed to my ability to pursue this doctoral degree, and I am grateful for their presence in my life. Desire to succeed as a positive role model for my son, Axl J. Dyer, motivated me to continue when quitting would have been easier. Guidance offered by my dissertation committee, Dr. Jay Greiner, Dr. Augustine Barón, and Dr. Christopher Bass, made completion of this dissertation possible. My father, Frank J. Lukes Jr., inspired this topic, and through him I realized the scarcity of resources and opportunities for social integration. I am deeply saddened that he did not live long enough to see fruition of my efforts. To all of those mentioned and the many more that were not, I say thank you. I did not achieve this as an island and will not move forward as one.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

For more than 50 years, scholars have acknowledged the association between the deleterious effects of social isolation and reduced quality of life among older individuals (Parsons, 1942). Social theories such as disengagement theory imply that deterioration of social ties and the associated manifestations are normal functions of aging and preparing die (Cumming, Dean, Newell, & McCaffrey, 1960). Increases in average life expectancy increase the number of individuals at risk of developing social isolation later in life. Additionally, evidence of social isolation among the elderly is beginning to emerge in collectivist cultures, suggesting that social isolation among the elderly is becoming an international health issue (Yee, Nair, Wan, & Han, 2015).

Most prior social-isolation-related research has been quantitative. Prior qualitative research has been culture bound, occurring in countries outside of the United States or focused on a very specific population such as individuals with disabilities or individuals residing in nursing homes (Bell & Clegg, 2012; Dury, 2014; Thomas, O'Connell, & Gaskin, 2013). Additionally, prior research has indicated that most interventions available to individuals experiencing or at risk for developing social isolation are not what members of this population needed or wanted (Wenger & Burholt, 2004). Framed within the context of ecological systems theory and social baseline theory, this interpretive phenomenological study addressed two specific gaps in the literature: (a) the experiences and perceptions of older individuals at risk of social isolation and (b) identification of barriers to social integration. Additionally, this study addressed the

circumstances and experiences that participants deemed most salient to increasing their individual risk of social isolation. Findings may be used to improve the understanding of the experiences and perceptions associated with the risk of social isolation, which may inform preventative and therapeutic strategies.

Background

Stemming from a long history of communal existence, the necessity of social interaction for the continuation of human prosperity and survival is echoed throughout the literature. Social interaction is essential to reproduction and continuation of the species (Cacioppo, Cacioppo, Capitanio, & Cole, 2015; DeWall, Deckman, Pond, & Bonser, 2011). Although not explicitly stated, acknowledgment of the additional hardships and ill effects endured by individuals expunged from society (DeWall et al., 2011) demonstrates an underlying awareness of the human need for societal inclusion. Recent research focused on perceived social isolation indicated that the distress associated with perceived social isolation is an adaptive function that has evolved to alert individuals to the potential harm associated with insufficient social connections (Cacioppo, Cacioppo, Capitanio, et al., 2015; Cacioppo & Hawkley, 2009). Other research has indicated that both forms of social isolation (objective and subjective) are independently associated with increased morbidity and mortality (Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015; Pantell et al., 2013; Shankar, McMunn, Banks, & Steptoe, 2011). Specific to mortality, Holt-Lunstad et al. (2015) found that objective social isolation increased an individual's likelihood of mortality by 29% and perceived

social isolation by 26%. Alspach (2013) found that among individuals with serious ailments such as acute myocardial infarction and breast cancer, the likelihood of mortality among socially isolated individuals increased to 49% and 66%, respectively.

Estimates relating to the prevalence of social isolation among older adults vary, ranging between 10% and 43% depending on the population sampled (Nicholson, 2012). Within the United Kingdom, between 11% and 17% of older individuals were socially isolated (Hawton et al., 2011). In contrast, Lelkes (2013) found that more than 40% of older individuals in Hungary and Greece were socially isolated. Among individuals with age-related hearing impairment, social isolation was 1.5% more prevalent among individuals age 70 to 79 than those age 60 to 69 (Mick, Kawachi, & Lin, 2014), suggesting that age and health account for additional variation in the percentage of a population that is socially isolated.

Manifestations

Behavioral, physiological, and psychological manifestations associated with social isolation indicate that social interaction is germane to human prosperity and survival. Behavioral manifestations such as decreased prosocial behaviors and increased aggression are self-protective measures that increase the odds of short-term survival but are not conducive to successful social integration or long-term survival (DeWall et al., 2011; Powers, Wagner, Norris, & Heatherton, 2013). Physiological changes such as those that increase the ability to fight bacteria are appropriate for environmental isolation but decrease an individual's ability to defend against potential viral threats associated with

social integration (Cole, Hawkley, Arevalo, & Cacioppo as cited in Cacioppo, Cacioppo, & Cole, 2013). Increased risk of cognitive decline, dementia, and suicide are among the psychological manifestations of social isolation (Nicholson, 2012). Similar to the behavioral and physiological manifestations associated with social isolation, the psychological manifestations decrease the viability of social reintegration.

Risk Factors

Numerous individual specific and environmental variables are risk factors for the development of social isolation. Lack of a significant other, low educational attainment, disability (mental and physical), and low socioeconomic status are among the commonly cited risk factors for the development of social isolation (Nicholson, 2012). Additional risk factors such as aging, decreased access to social opportunities, reduced access to transportation, and multiple chronic illnesses increase social isolation vulnerability among the elderly (Dickens, Richards, Greaves, & Campbell, 2011; Ibrahim, Momtaz, & Hamid, 2013).

Early explanations for increased vulnerability to social isolation among the elderly have included social withdrawal as a normal aspect of the aging process (Cumming et al., 1960). Examination of age-related risk factors such as death-related losses of peers and significant others suggests that although these factors are a normal part of aging, they are neither voluntary nor pleasant. Parsons (1942) suggested that in the United States, social isolation among the elderly is a byproduct of familial and occupational structures. Specifically, familial units are small and not typically

multigenerational or inclusive of extended family members. As dependent children mature, they are likely to abandon the family home, reducing their parents' access to familial relations and support (Parsons, 1942). Recent research has indicated that structural changes to the family such as those suggested by Parsons are, at least in part, contributory to the increasing number of socially isolated older individuals in Japan (Shimada et al., 2014).

Related Research

Possibly due to increased access to related information and/or the anticipation of increases in the population of older individuals, efforts to minimize social isolation among the elderly are increasing at the regional, national, and international levels (Ibrahim et al., 2013; Shimada et al., 2014). Nevertheless, social isolation among the elderly continues to be problematic. Research has started to emerge addressing the role of social policy, environmental influences, and lived experiences of older individuals at risk of social isolation (Cloutier-Fisher, Kobayashi, & Smith, 2011; Kim & Clark, 2015; Saltkjel, Dahl, & van der Wel, 2013). However, the cultural relevance of the findings might limit the application potential within the United States. For example, Saltkjel et al. (2013) found a positive correlation between welfare generosity and social participation in European countries. Although this is an important finding, the economic structure and population of the United States are vastly different from the countries with the most generous welfare programs and highest rates of social participation. Alternatively, Kim and Clark (2015) examined the role of neighborhood factors in the social isolation of

older individuals residing in Detroit. Although their findings suggesting that efforts to reduce the threat of crime but that increase fear of crime among the elderly are relevant to many locations, many of the findings specific to urban areas are not generalizable to nonurban areas. Similarly, Cloutier-Fisher et al. (2011) investigated the lived experiences of older Canadians with small social networks. Despite the geographic proximity of Canada and the United States, the cultures and social policies are different, which might lead to differences in the experiences and perceptions associated with being at risk for social isolation. The current study addressed the experiences and perceptions of older adults who live alone and are at risk of social isolation within the suburbs of Southern California.

Problem Statement

Social isolation is a multidimensional phenomenon that can negatively affect the individual and society (Gustafsson, Aronsson, Marklund, Wikman, & Floderus, 2013). There is a range of definitions applied to *social isolation* (Nicholson, 2009). For example, Nicholson (2009) defined social isolation as a lack of access to and/or engagement in quality interpersonal relationships. In contrast, Rook (1984) indicated that lack of social integration is a defining component of social isolation as an objective condition, and that degree of choice is relevant to the perception of social isolation and individual social-isolation-related manifestations. Other authors have expanded the definition of social isolation to include exclusion from social engagement and lack of access to community/social resources (Ahn & Shin, 2013; Berkman, 1983).

Within Western cultures, approximately 11% of the population is socially isolated, and some researchers have estimated that as much as 35% of the older population is socially isolated (Nicholson, 2009). Although the bulk of literature has been generated in Western cultures, increasing awareness of social isolation as a physiological and psychological health risk with societal impact is emerging within Eastern cultures (Choi, Cheung, & Cheung, 2012; Murayama, Shibui, Fukuda, & Murashima, 2011). Social-isolation-related physiological changes include increased blood pressure, cognitive defects, and increased incidence of Alzheimer's disease (Cacioppo, Hawkley, Norman, & Berntson, 2011; Rook, 2014). Recent molecular level research has indicated altered gene expression among the socially isolated (Cacioppo et al., 2011). Gene expression refers to the process of DNA transcription to RNA, subsequent synthesis to a protein, and influence on cell behavior (Biologicals, 1996). Cole (2009, 2013) found that altered gene expression influenced by social isolation resulted in increased activation of proinflammatory cytokines (associated with inflammatory based illnesses) and reduced activation of immune system responses. However, Cacioppo et al. (2011) found that the relationship between social isolation and altered gene expression existed for perceived but not objective social isolation.

Psychological and behavioral manifestations can emerge as decreased self-regulation of impulses, decreased prosocial behavior, and increased aggression (DeWall et al., 2011). Societal impacts include increased disability claims and medical costs related to secondary health effects of social isolation and increases in domestic violence

(Choi et al., 2012; Gustafsson et al., 2013). The phenomenon of social isolation becomes self-perpetuating as many of the manifestations secondary to social isolation contribute to the emergence and growth of issues attributed to the development of social isolation (Nicholson, 2009).

Prior research included quantitative, qualitative, and mixed-methods studies. Many quantitative studies focused on the circumstances associated with the development of social isolation and related outcomes (Jehoel-Gijsbers & Vrooman, 2007; Toepoel, 2013). In contrast, qualitative research has addressed the perspectives of a variety of individuals. For example, Pettigrew, Donovan, Boldy, and Newton (2014) interviewed individuals who were not socially isolated but knew an individual whom the participant believed to be socially isolated. Clark (2002) explored ways that older individuals at risk for social isolation benefitted by using the Internet. A 20-year longitudinal mixed-methods study by Wenger and Burholt (2004) indicated several aspects about social isolation. For instance, the degree of social isolation experienced by an individual can fluctuate over time, "some aspects of isolation can be avoided," and "services that aim to support isolated older people are often not what isolated older people want" (Wenger & Burholt, 2004, p. 125). More recently, Cloutier-Fisher et al. (2011) identified the need to examine the lived experience of social isolation. They addressed this gap in the literature by researching the lived experience of older Canadiens with small social networks and deemed at risk for social isolation.

Material deprivation, lack of access to community and government resources, and lack of social integration can act singularly or collectively as catalysts to the development of social isolation (Jehoel-Gijsbers & Vrooman, 2007). Ageism, disability/illness, lack/loss of employment, living alone, and separation from family/friends are some of the life circumstances that can increase an individual's risk of experiencing material deprivation, lack of access to community and government resources, and/or lack of social integration (Nicholson, 2012). In fact, early research indicated social isolation was a normal aspect of the aging process (Parsons, 1942). Current interventions tend to be therapeutic, focusing on a single dimension of this multidimensional phenomenon. Nevertheless, Dickens, Richards, Greaves, and Campbell (2011) reviewed 32 social-isolation-focused interventions and found that many participants experienced positive outcomes and reductions in their degree of social isolation. These findings suggested that social isolation is treatable. Despite the success associated with current interventions, social isolation continues to be problematic in Canada, Europe, the United States, and a growing number of Asian countries (Choi et al., 2012; Cornwell & Waite, 2009; Dury, 2014; Paik & Sanchagrin, 2013).

Exploration of the experiences and perceptions of older individuals living alone and at risk of social isolation can increase understanding of the phenomenon. Exploration of participant demographic and social factors provided context to their experiences and perceptions. Additionally, in-depth interviews with this population provided an

opportunity to ask members of this population what types of services they would like, would use, and would consider beneficial.

Purpose of the Study

The purpose of this study was to increase understanding of the experiences and perceptions of older individuals at risk for social isolation. Identification of triggers that increase an individual's perception of social isolation, and/or the risk of developing social isolation, and potential remedies were supplemental goals of this study. Interpretive phenomenological research in the form of diaries and interviews provided the platform to explore the daily and historical experiences of older adults at risk for developing social isolation. Interviews addressed participants' perceptions and suggestions for strategies and intervention options aimed at reducing the risks associated with social isolation.

Research Questions

The intent of this study was to increase insight and internalization of the experiences, perceptions, wants, and needs of older individuals at risk for social isolation. The following research questions were used to guide the study:

1. What emotions and thoughts do older individuals at risk for social isolation have about living alone?
2. Based on their experience and perceptions, what do older individuals at risk for social isolation think are the factors that result in social isolation?
3. Based on their experience and perceptions, what do older individuals at risk for social isolation think are the factors that prevent social isolation?

4. Based on their experience and perceptions, what do older individuals at risk for social isolation think are the factors that promote social integration?

Theoretical Foundations

Ecological systems theory (Bronfenbrenner, 1977, 1979, 2000) and social baseline theory (Beckes & Coan, 2011) formed the theoretical foundation of this study. Ecological systems theory 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 (Bronfenbrenner, 1977, 1979, 2000). Interdependence and interactions between systems and relationships can lead to secondary effects across settings and systems (Bronfenbrenner, 1977, 1979, 2000). For example, an increase in the cost of or reliance on Medicare (exosystem) could lead to a decrease in disposable income and a reduction in financial resources (microsystem) allotted for social activities (mesosystem). Bronfenbrenner's (1977, 1979, 2000) ecological systems theory provided a paradigm to examine the various environmental and individual influences on the development of social isolation, the adaptations and bi-directional interactions of those influences, their consequences, and how those consequences influence the individual and their environment. The primary dimensions of social isolation relate to a lack of belonging, engagement, and relationships with others (Nicholson, 2009) suggesting limited interaction with and between the micro-, meso-, and exosystems associated with ecological systems theory (Bronfenbrenner, 1977, 1979, 2000) and divergence from social interaction norms (Beckes & Coan, 2011).

Social baseline theory (SBT) posits that human beings have adapted to exist within social networks and that the baseline for emotional regulation is established within the social environment (Beckes & Coan, 2011). The premise of SBT suggests that social proximity to other human beings promotes economy of action (the perception that environmental risks and task-related energy expenditure will be shared by the individuals present) but does not alter emotional regulation. Negative interactions and/or lack of social interactions distance the individual from the ideal environment resulting in increased personal expenditures of energy related to task completion, avoidance of environmental risks, and decreased emotional regulation (Beckes & Coan, 2011).

The underlying assumptions of this study were that older individuals at risk of social isolation have experienced alterations to their social systems and that those changes have had a negative impact on their emotional and physiological baselines. Cornwell, Laumann, and Schumm (2008) indicated "age is negatively correlated with network size and closeness to network members" (p. 1). Consistent with ecological systems theory, age-related impact on one social system would influence the individual's relationship with or participation in their other social systems. As the individual's networks and meaningful relationships within those networks continue to shrink, the individual becomes more isolated and further distanced from the social baseline relevant to the human default of social connectedness (DeWall et al., 2011). As suggested by social baseline theory (Beckes & Coan, 2011) and supported by social genomics (Cole, 2009), behavioral, emotional, and physiological changes would follow. Many of these

changes are counterintuitive to maintaining or building relationships and promote an increase in social isolation.

Conceptual Framework

Ecological systems theory and social baseline theory were the theoretical foundations for the conceptual framework of this study, composite structural description was used to narrate the findings (see Beckes & Coan, 2011; Bronfenbrenner, 1977, 1979, 2000; Moustakas, 1994). Influences that promote the development of social isolation can exist on any or all of an individual's social networks. Within the framework of Bronfenbrenner's (1979) ecological systems theory, the development of social isolation can be initiated or exasperated by characteristics of the individual and/or their relationships (or lack of relationships) within their immediate, local, and extended social networks, as well as the interactions that occur between their social networks. Deterioration of social network integrity (i.e., decreases in network members, diminished health, lack of access, and/or negative interactions) increases an individual's risk of social isolation (Alspach, 2013; Nicholson, 2012). Social baseline theory posits that absence or deterioration of social networks potentiates responsive self-protective behavior that is often contrary to the reestablishment of relationships (Beckes & Coan, 2011). Ecological systems theory and social baseline theory are complimented by the acknowledgement of psychological and sociological variables on an individual's perception associated with interpretive phenomenology. As such, composite structural description as described by Moustakas (1994) was an appropriate method of findings narration.

Inquiry into the experience of social isolation within the ecological systems and social baseline theories provided a framework to categorize the various dimensions of social isolation experienced by the study participants. In addition to affording the researcher the ability to categorize the themes that emerged from participant dialogue, the theories aided with the identification of the associated hierarchal levels existing in society. Identification of primary societal levels associated with themes salient to the participants' experiences increased researcher understanding of the type of interventions and preventative strategies that might be beneficial to and wanted by members of the older population.

Nature of the Study

This study was an interpretive phenomenological exploration of the lives and perceptions of older adults at risk for social isolation. The Older Americans Act of 1965 identified older individuals as individuals who are 60 years and older (Administration on Aging, 2006). For purposes of this research, 10 adults age 60 years or older who live alone were recruited to participate. Participant recruitment strategies included criterion, purposeful, and snowball sampling. Although members of this community might be hidden, purposeful sampling was possible because there were numerous age-restricted (55+) residential communities local to this researcher. Community stakeholders such as residential community liaisons, government entities, and charitable organizations were contacted to increase access to older individuals believed to be at risk for social isolation and to indicate additional locations where members of this population might be found.

Diaries and interviews gave voice to the experiences and perspectives of individuals at risk for social isolation and provided participants a source of reflection. Both data-gathering methods have been associated with facilitating the participation process (Kemmis, McTaggart, & Nixon, 2014; Waterman, Tillen, Dickson, & de Koning, 2001). Therefore, all participants were interviewed and received a diary. The continuous record keeping associated with diaries provided documentation of the differences and similarities in participant perspectives, served as a source of participant reflection (Kemmis et al., 2014), chronicled changes in participant perspective, and provided insight into topics might not be as telling if generalized during discussion. Jean (2013) noted that potential participant benefits related to the interview process include empowerment, increased self-awareness, and a sense of helping others with similar conditions; researchers benefit from the potentially increased understanding of the phenomenon.

Operational Definitions

Systems theories, including Bronfenbrenner's (1979) ecological systems theory, provide a theoretical framework to explore and explain the complex nature of an individual's relationship with and within their environment (Friedman & Allen, 2011). It was necessary to define the terminology associated with social isolation as well as theories that were relevant to this study. The following definitions are included to provide operational and semantic clarity:

Ageism: Differential attitudes toward and treatment of an individual or group based on age-related stereotypes. Early definitions of ageism were built on Butler's (1969) definition, indicating that ageism is the age-based equivalent of racism and sexism (Iversen, Larsen, & Solem, 2009). Numerous authors, including Butler (1980), have expanded on the definition; however, the multitude of variations has rendered the definition ambiguous and subjective. Iversen et al. (2009) compared and synthesized 27 definitions of ageism and offered a new multicomponent definition indicating that ageism is the positive or negative perception of or behavior toward an individual based on their actual or perceived age.

Aging in place: The continuation of residing in a home and maintaining a sense of independence despite financial or physical barriers (Greenfield, 2011).

Disengagement theory: An aging-related theory that posits that individuals in their 60s will begin to withdraw from their social networks and that this is a normal aspect of aging (Cumming et al., 1960).

Gentrification: A multilevel phenomenon that occurs when a neighborhood changes culturally, economically, physically, and socially following the influx of new residents of a higher socioeconomic standing than former and long-standing remaining residents (Burns, LaVoie, & Rose, 2012).

Loneliness: The distress caused by an individual's perception that his or her social relationships are inadequate to fulfill his or her desires or needs (Cacioppo, Cacioppo,

Cole et al., 2015). The term has also been used interchangeably with perceived and subjective social isolation (Cacioppo et al., 2011).

Objective social isolation: Quantifiable aspects of socialization. For example, Ibrahim et al. (2013) described objective isolation in terms of number of contacts and interactions. Others have indicated that the type and quality of relationships are pivotal relative to social capital and isolation (Dury, 2014; Platt, 2009).

Perceived social isolation (also referred to as subjective social isolation): An individual's determination that his or her access to various types of social support is inadequate to meet all of his or her needs (Cole, 2013). Within the literature, perceived social isolation is often indicated as the formal term for loneliness (Cacioppo et al., 2011); the two are frequently used interchangeably. However, when objective and perceived social isolation are contrasted, loneliness is indicated as a component of perceived social isolation, not an equivalent (Cornwell & Waite, 2009). Nevertheless, many authors rely on Weiss's (as cited in Cacioppo, Cacioppo, & Boomsma, 2014) and Wenger and Bergholt's (2004) conceptual definition of perceived isolation as loneliness.

Social exclusion: The circumstances surrounding the inability of an individual or group to access or participate in the normal functions of society (Bäckman & Nilsson, 2011). As indicated by Ahn and Shin (2013), social exclusion is among the terms perceived as synonymous with social isolation.

Social isolation: A term lacking universal definition. Despite the efforts of Nicholson (2009) to formulate an operational definition of social isolation that was

inclusive of both objective and subjective indicators, considerable variation continues. There remains no universally accepted definition of social isolation, and cultural variation of the definition includes the interchangeability of social isolation and social exclusion (Ahn & Shin, 2013). Conceptually, social isolation has been defined as the opposite of social integration while other definitions have focused on evidence of functional and structural social support (Dickens et al., 2011). Other authors have defined social isolation in terms that are exclusively objective or exclusively subjective (Ibrahim et al., 2013). For purposes of this research, the definition of social isolation is inclusive of both objective and subjective social isolation because the literature search strategy did not distinguish between the two. However, it is prudent to differentiate the two as some outcomes and risk factors are relevant to one but not the other.

Assumptions

Researcher assumptions are inherent to qualitative inquiry. It was assumed that participants in this study would be comfortable expressing their thoughts and opinions without fear of repercussion. It was also assumed that participants would understand the questions asked and, if not, would ask for clarification. In addition, it was assumed that the experiences and perspectives shared by each participant would be rich and unique to each participant. Additionally, it was assumed variation in participant perspectives would expand the depth of understanding while revealing common themes.

Scope and Delimitations

The scope of this study was individuals age 60 years and older who live alone, speak English, and were within geographic reach of the researcher. Emergent themes may have transferability potential to cultural settings similar to that of the study sample. For example, within Southern California, the themes of focus for individuals in one city are very likely to be similar to the themes of focus in a neighboring city. However, those themes may not be applicable or transferable to individuals within a different state, country, or culture with different norms.

Delimitations of the study are relative to the goal of the study to increase understanding of the phenomenon. Establishment of statistically significant findings and generalization were not aims of this study. Data collected as a result of participant completion of self-report tools were meant to aid the researcher in delineating rich descriptions of the participants, their life circumstances, and their diversity. Therefore, data collected in this study were not be subjected to statistical analysis, and no indication of generalizability is implied.

Limitations

Individuals at risk of social isolation are not likely to be well integrated into mainstream society and may constitute a hidden population. Therefore, it was difficult to establish that individuals participating in the study were representative of similarly or more socially isolated individuals. Additionally, as indicated in the literature review, there are cultural differences in the factors associated with the risk and experience of

social isolation. Further, the depth and scope of researcher experience and knowledge may have influenced the focus of this investigation, which may have resulted in the neglect of relevant areas of the risks of social isolation experienced by older individuals who live alone. As a result, the findings of this study are limited by the small number of participants, their unique circumstances, and researcher bias.

Significance

This study has the potential to provide immediate benefit to the study participants and to inform the development of intervention strategies targeting the prevention and treatment of social isolation. Social isolation is not a novel topic; research on this subject is mounting relative to the behavioral, emotional, and physiological manifestations related to social isolation and the subsequent impact on society (Gustafsson et al., 2013; Nicholson, 2012; Rook, 2014). Manifestations of social isolation such as increased aggression, depression, disability, and increased risk of morbidity are well documented (Nicholson, 2012; Rook, 2014; Toepoel, 2013). Subsequent economic impact on society such as increased disability claims can occur when social isolation facilitates debilitating changes to physiological and/or psychological health. Toepoel (2013) suggested that interventions (such as leisure activities) aimed at increasing the quality of life of older individuals may reduce their risk of developing social isolation and may lead to a decrease in society's social-isolation-related economic burden. However, most of the prior research has been quantitative focused on defining social isolation, identifying the risks and manifestations associated with developing social isolation, and assessing

positive outcomes associated with social-isolation-focused interventions. This current study was conducted to empower study participants by giving them the opportunity to identify and express the experiences they perceive as instrumental in developing social isolation and methods that may lead to a remedy.

The population of older individuals at risk for social isolation presented a unique opportunity to learn more about social isolation through their current and retrospective lenses of experience. Although the intention of this study was not to serve as an intervention, participants potentially benefitted from their involvement. The process of recording, discussing, and reflecting provided participants the opportunity to identify barriers to social integration that are present in their lives and to alert them to the need to devise strategies that minimize their risk of developing social isolation. Additionally, participant experiences might inform future interventions. The researcher sought to empower older individuals who are at risk for developing social isolation by giving them a voice and opportunity for reflection. Additionally, the researcher sought to increase understanding of social isolation through the knowledge gained by exploring the experiences, desires, and needs of older individuals at risk for developing social isolation from their perspectives.

Summary

Social isolation is a multidimensional phenomenon associated with an increased risk of morbidity and mortality (Nicholson, 2012; Rook, 2014; Toepoel, 2013). Risk factors for developing social isolation can be related to variables that are individually,

culturally, environmentally, and/or socially specific. Vulnerability to the risks of social isolation is greater for older individuals and is increased by the inclusion of risks that are exclusive to this population (Dury, 2014). The diverse array of influences originating from varied social settings indicated that Bronfenbrenner's (1979) ecological systems theory would be an appropriate theoretical foundation and conceptual framework to view the experiences and perceptions associated with social-isolation-related risk, development, and manifestations. Manifestations, although individually specific, potentially influence an individual's interactions with others and reliance on public services. Although Bronfenbrenner's ecological systems theory provided a framework to explore the encapsulating and expanding effects of social isolation, it provided no basis for explanation. Social baseline theory supplements ecological systems theory by providing an explanation for social isolation manifestations as reactionary to divergence from the evolutionary adaptation of group membership (Beckes & Coan, 2011).

This interpretive phenomenological study addressed the salient risks of and potential remedies for social isolation as well as the associated experiences as described by older individuals who live alone. The volume of literature reviewed indicated the risks, cultural variations, manifestations, outcomes, current interventions, and potential implications for policy change. The social-isolation-related topics discussed in Chapter 2 guided but did not limit this exploration into the experiences and perceptions of older individuals at risk for social isolation.

Chapter 2: Literature Review

Definitions of social isolation tend to vary across contexts, cultures, and domains (Ibrahim et al., 2013; Nicholson, 2009). Variation of operational definitions associated with social isolation has led to inconsistencies about the prevalence of social isolation (Pettigrew et al., 2014). Indications of semantic inconsistencies and growing global awareness of social isolation are evident in the existing literature. For example, Ahn and Shin (2013) identified social exclusion as one of the terms used interchangeably with social isolation. Review of numerous articles of Asian, European, and North American origin supports the assumption that culture and/or country dictates terminology choice (social exclusion vs. social isolation). Further, it is important to acknowledge that social isolation is a broad term that includes objective and subjective isolation (Lowenthal, 1964; Parigi & Henson, 2014).

As research continues to evolve, it becomes more apparent that social isolation poses a threat to the health and well-being of individuals. Prior researchers have identified several risk factors, manifestations, and outcomes associated with the development of social isolation (Shankar et al., 2011). As a result of the natural accumulation of known risk factors, older individuals are at increased risk of developing social isolation (Dury, 2014). Interventions exist; however, the population of older individuals is increasing (Administration on Aging, 2016), and social isolation continues to be a potential experience for them.

Literature Search Strategy

An expansive and systematic approach was conducted via Walden University's electronic library. Ecological systems theory, phenomenology, social isolation, and social baseline theory were identified as the key concepts to begin the search using the multidatabase search engines Google Scholar and Thoreau. The very broad searches within Google Scholar and Thoreau provided sufficient substance to define relevant search terms, narrow the search to include only peer-reviewed articles, and identify databases likely to contain literature relevant to the key concepts. The initial keywords used were *ecological systems theory*, *objective social isolation*, *perceived isolation*, *phenomenology*, *senior citizens*, *social baseline theory*, *social exclusion*, *social isolation*, *social isolation + health*, and *social isolation interventions*. The databases Academic Search Complete, Business Source Complete, CINHAL Plus with Full Text, Education Research Complete, ERIC, MEDLINE with Full Text, PsycArticles, PsycINFO, Project Muse, Sage Premiere, and SocINDEX were accessed to search for the key words.

Review of the literature generated by the initial keywords led to searches for the keywords *genomics* and *social genomics* within the previously mentioned databases and PubMed Central. Dictionaries, encyclopedias, and textbooks were accessed via Walden University's electronic library in response to the volume of research addressing molecular-level changes related to social isolation. Keywords searched within the reference materials were *hypothalamic-pituitary-adrenal axis*, *gene expression*, *social entrainment*, and *social signal transduction*. The U.S. Administration on Aging and

Administration for Community Living were accessed to obtain legal definitions of the study population (older adults).

Theoretical Foundations

Ecological systems theory and social baseline theory provided the conceptual framework of this study. Bioecological systems theory provides a model of the interactions and bidirectional influences existing between an individual or group and the nested environments in which they exist (Bronfenbrenner, 1977, 1979, 2000). However, within the current literature, it is the ecological framework originally inspired by Bronfenbrenner (1979) that is frequently referred to and recommended (Onwuegbuzie, Collins & Frels, 2013; von Heydrich, Schiamberg, & Chee, 2012). Based on the assertion that proximity to and interaction with other human beings is essential to human prosperity, social baseline theory posits an explanation of the physiological and psychological necessity of the relationships that exist within an individual's immediate and extended environment (Beckes & Coan, 2011). The actual or perceived absence of functional and/or structural relationships is associated with the development of social isolation (Bäckman & Nilsson, 2011; Dury, 2014; Nicholson, 2009). The origins and prior applications of ecological systems and social baseline theory, as well as their applicability to social isolation research, are discussed in the following sections.

Ecological Systems Theory

As cited in Friedman and Allen (2011), Von Bertalanffy's systems theory describes a cause and effect bidirectional relationship between two entities. Friedman and

Allen (2011) credited Bronfenbrenner (1979) with building on Von Bertalanffy's (1968) systems theory to conceive the ecological environment. Bronfenbrenner (1979) described the ecological environment as "a set of nested structures, each inside the next, like a set of Russian dolls. At the innermost level is the immediate setting containing the developing person" (p. 3). Bronfenbrenner defined the primary levels of the ecological environment as the microsystem, mesosystem, exosystem, and macrosystem. Consistent with Bronfenbrenner's assertion that the ecological environment was the basis for both a paradigm and theory, ecological systems theory has evolved into a collection of adaptations and theoretical frameworks based on the original concept that an individual influences and is influenced by the various nested systems he or she is a part of, including those that have no direct interaction with the individual (Bronfenbrenner, 2000; Winch, 2011).

Evolution and variations. Building on Bronfenbrenner's (1979) ecological systems theory, Bronfenbrenner and Ceci (1994) introduced the bioecological model as a "general theoretical and operational framework" (p. 568). Central to the bioecological adaptation to ecological systems theory is the inclusion of genetics relative to the person-environment interaction. Later, Bronfenbrenner (2000) indicated that the bioecological model was the evolved replacement for ecological systems theory. Other variations have included the social-ecological models of McLeroy, Bibeau, Steckler and Glanz (as cited in Winch, 2011) and Stokols (1996).

Prior application. Ecological systems theory proponents such as Onwuegbuzie et al. (2013) suggest that Bronfenbrenner's (1979) conception of the ecological model is a viable framework for qualitative, quantitative, and mixed-methods research, as well as dissemination. Within the United States, numerous health-related organizations such as the Centers for Disease Control (n.d.) and the National Research Center (as cited in von Heydrich et al., 2012) promote the use of ecological frameworks relative to health-related research and interventions. Variations of the ecological systems theory have been used as the framework for research relating to social isolation and the design of social isolation focused interventions. For example, Kim and Clarke (2015) identified a gap in the research related to the role of neighborhood (mesosystem) factors in relation to social isolation and withdrawal of elderly residents. Kim and Clarke conducted a three-year longitudinal study of 965 adults aged 55 and older to determine whether a relationship existed between the participants' level of social engagement and indicators of disorder in their residential area. Results indicated that although neighborhood postings of crime deterrent practices such as neighborhood watch signs were associated with reductions in crime, social isolation and withdrawal were increased among the elderly, possibly as a result of increased risk awareness (Kim & Clarke, 2015). Although not explicitly indicated as incorporating the ecological model, Saltkjel et al. (2013) examined the influence of government welfare programs on social exclusion. Data gathered from more than 21,000 individuals residing in 21 European countries indicated that level of welfare generosity was positively correlated with levels of social participation regardless of

personal health and socioeconomic standing. Other researchers such as von Heydrich et al. (2012) indicated that their decision to use a variation of the ecological framework in their study of elder abuse was responsive to recommendations made by the National Research Center.

Social Baseline Theory

As indicated in the literature, objective and/or perceived absence of social support is associated with diminished physiological and psychological health (Nicholson, 2009; Rook, 1984). Social baseline theory (SBT) addresses the role of social interaction and proximity relative to emotional regulation and threat perception (Beckes & Coan, 2011). The premise of SBT is that human beings have phylogenetically evolved to exist in close proximity to and interact with other people and that an individual's default level of emotional regulation is determined by the quality and quantity of his or her relationships (Beckes & Coan, 2011).

Reliant on the economy of action principle and supported by social support neuroscience (Coan, Beckes, & Allen, 2013; Coan, Kasle, Jackson, Schaefer, & Davidson, 2013), SBT posits that social proximity promotes burden sharing relative to decision-making, metabolic resources, and threat assessment. According to SBT, social load sharing influences processes such as emotional regulation, which are mediated via the prefrontal cortex and may be an evolutionary adaptation to conserve energy resources (Beckes & Coan, 2011). In the absence of social support, as in social isolation, the burden of activities that would normally be shared with others is borne by the individual. This

suggests that in similar situations, isolated individuals expend more energy and deplete more resources than integrated individuals do (Beckes & Coan, 2011). Consistent with this reasoning, Beckes and Coan (2011) suggested that in the absence of social support, individual performance relative to decision-making and emotional regulation might suffer due to neural resource depletion. They also suggested that in the absence of load sharing and risk distribution opportunities, isolated individuals might sleep more as part of an energy preservation and replenishment strategy. Although this prediction seems reasonable, it is contrary to earlier (Cacioppo, Hawkley, & Berntson, 2003) and recent research (Cacioppo, Cacioppo, Cole, et al., 2015) demonstrating the association between perceived social isolation and increased sleep fragmentation.

Prior application. Research supporting the assumptions of social baseline theory is emerging. For example, two recent fMRI studies provided empirical evidence of the influence social factors have on brain activity specific to neural threat response (Coan, Beckes, et al., 2013; Coan, Kasle, et al., 2013). Maternal support and neighborhood quality (Coan, Beckes, et al., 2013) as well as perceived marital mutuality (Coan, Beckes, et al., 2013) were associated with reduced neural threat response to anticipated electrical shock.

SBT related hypothesis testing is also emerging. Based on the SBT premise that the absence of social support necessitates increased reliance on an individual's metabolic resources, Henriksen, Torsheim, and Thuen (2014) determined that loneliness and

relationship satisfaction were associated with sugary beverage consumption. Consistent with earlier research, self-regulation is reliant on glucose (Gailliot et al., 2007).

Relation to study. This study sought to gain insight into the perceptions of older adults that live alone and are at risk of social isolation. Basal to ecological systems theory is the recognition that individuals exist within hierarchical systems and that those systems and the interactions of those systems have impact and influence on the individual (Bronfenbrenner, 1979). Social isolation can occur as a result of singular and/or collective circumstances that occur or are influenced by actions and attitudes existing on one or more of the systems (Feeney & Collins, 2015) identified by ecological systems theory. Therefore, perceptions of risks, outcomes, and possible remedies can be categorized and evaluated within the ecological framework.

Alternatively, SBT provides an explanation as to why some individuals fail to thrive in the absence of positive social support and ties. SBT implies that positive and successful interaction within those systems is necessary for individual and species continuation of life (Beckes & Coan, 2011). Deviation from the baseline level of social interaction promotes a cascade of responses associated with (re)establishment of social ties and self-preservation (Beckes & Coan, 2011; Cacioppo et al., 2014). Classical (Lowenthal, 1964), current (Cole, 2013; DeWall et al., 2011), and emerging (Cacioppo & Cacioppo, 2015) research has identified behavioral, cognitive, physiological, and psychological manifestations related to objective and subjective social isolation establishing a basis for predicted outcomes.

Conceptual Framework

Social isolation can imply different things within varied contexts and among different people (Shimada et al., 2015). For example, while some literature indicates that social isolation is a unidirectional phenomenon other literature defines it as a multidimensional phenomenon (Dickens et al., 2011). The multilevel nature of the risk factors, indicators, and outcomes associated with social isolation suggests that a multidimensional definition is appropriate (Dickens et al., 2011; Dury, 2014; Hand et al., 2014). Additionally, previous research has validated the use of systems-based theories to frame social-isolation-related research (Bell & Clegg, 2012; Kim & Clarke, 2015, von Heydrich et al., 2012).

Ecological Systems Theory

Modelled after Bronfenbrenner's (1979) ecological systems theory, this study sought to explore participant perceptions of the factors and life experiences associated with the risk of social isolation, potential manifestations of social isolation, and possible remedies/methods of prevention. Framing the associated risk factors and potential outcomes within the various systems associated with the ecological framework assisted this researcher in managing the numerous and complex dynamics of social isolation. Social baseline theory provides an explanation for possible outcomes associated with the associated risks.

Each individual exists at the center of his /her own world, is influenced by, and influences the systems that surround him/her. According to Bronfenbrenner (1977), those

systems are identified as the microsystem, the mesosystem, the exosystem, and the macrosystem. The various systems are explored in relation the individual and social isolation below.

Individual. Specific to the individual there are known life circumstances that increase an individual's risk of developing social isolation. For example, Nicholson (2012) pointed to several factors that contribute to the risk of developing social isolation such as: aging, body image, cognitive decline, decreasing social networks, incontinence, level of education, living alone, loss of significant other or confidante, marital status, loss of mobility and transportation, neighborhood changes and safety, retirement, race, sensory losses, sex, and socioeconomic status. Any of these risk factors (as well as others not listed) singularly or collectively can lead to the development of social isolation (Nicholson, 2012).

Vulnerability to the risks of developing social isolation varies by individual, as does the form of social isolation. As early as 1964, Lowenthal posited that an individual could suffer from one or both of two distinct forms of social isolation (objective and subjective), that the two forms had similar risk factors, were independent of one another, and had similar potential outcomes. The premise of Lowenthal's (1964) observations remains intact but has been expounded. For example, Cacioppo and Cacioppo (2015) discussed various studies of twins that indicated loneliness (perceived social isolation) has a heritability rate of approximately 50%. Other research has indicated that loneliness has a contagion effect and can spread within a social network (Cacioppo & Hawkley,

2009). Therefore, genetics and choice of social circle are also contributory to the risk of social isolation.

Microsystem. The relationships that an individual engages in within their immediate environment and while engaging in environmentally specific roles are referred to as the microsystem (Bronfenbrenner, 1977). The parent-child relationship occurring within the home and the employer-employee relationship that exists within the workplace are examples of microsystem relationships. As individuals age, the dynamics and existence of these relationships are likely to change and potentially increase the individual's risk of social isolation. For example, loss of a spouse or significant confidante is an unavoidable eventuality that has been associated with increased social isolation (Liu & Rook, 2013). Changes within the workplace such as retirement of coworkers, or the individual's departure from the workplace are risks of social isolation due to their likelihood of contribution to a decrease in size of an individual's social network (Cornwell & Waite, 2009; Pettigrew et al., 2014).

Negative social interactions within the microsystem can lead to, reinforce, and or result from social isolation (Rook, 2014). Empirical evidence suggests several associations between social isolation and violence (Choi et al., 2012; DeWall et al., 2011; von Heydrich et al., 2012). In the United States, role reversal within the parent-child dyad has been associated with familial elder abuse (von Heydrich et al., 2012). Examination of these dyads suggests that multiple factors, such as caregiver financial difficulties and social isolation of the caregiver and parent, contribute to adult child caregivers becoming

physically and sexually abusive of their dependent parents. Alternatively, in Japan, elderly parents that reside with their adult children are more likely to commit suicide than their socially isolated cohorts that live alone (Shimada et al., 2014). Spousal violence has also been associated with social isolation. In a study of more than 700 married women living in Hong Kong, it was determined that female marriage migrants were more socially isolated and more vulnerable to spousal violence than local women (Choi, Cheung, & Cheung, 2012). Results of the study conducted by Choi, Cheung, and Cheung (2012) indicated that the husband's participation in social networks and the norms within those networks coupled with the wife's sense of social control were the primary predictors of domestic violence against marriage migrants. The association between social isolation and aberrant behavior such as decreased self-regulation and increased aggression (DeWall et al., 2011) provides support for the relationship between acts of domestic violence and perpetrator degree of social isolation/integration and social network norms.

Mesosystem. The mesosystem describes the relationships between the microsystems that the individual is a part of (Bronfenbrenner, 1977). Relationships between the individual's family and organizations the individual is a member of such as a congregation or a philanthropic group. As indicated by Parigi and Henson (2014) too many relationships can result in an overabundance of poor quality relationships, disconnected social circles, conflicting social circle goals, and cognitive dissonance; all of which increase an individual's risk of social isolation.

Exosystem. Formal and informal structures such as government, mass media, and neighborhoods are among the structures Bronfenbrenner (1977) indicates are included in the exosystem, which is an extension of and encompasses the mesosystem (p. 515). Despite the lack of direct interaction between the individual and structures within the exosystem, the exosystem has a profound influence on the individual (Bronfenbrenner, 1977). For example, in their exploration of marriage migrant vulnerability to domestic violence in Hong Kong, Choi et al., (2012) identified the husband's culture and social networks as influential relative to his predisposition to perpetrate domestic violence.

The geographic location of the individual's residence is pivotal to the type of influence the exosystem exerts on an individual's overall well-being. Neighborhood gentrification (Burns et al., 2012) and neighborhood safety (Kim & Clarke, 2013) have both been associated with reclusion. Access to and availability of programs and services provided by government agencies and philanthropic organizations also exert influence on the individual. Saltkjel et al., (2013) found that across income levels, welfare generosity was positively associated with social participation. This suggests that government spending on programs that equalize the quality of life factors associated with socioeconomic status is beneficial to all (or most) members of a given society.

Macrosystem. The macrosystem is a collection of prototypes and stereotypes that guide the widely-held beliefs about the individuals and structures within each of the preceding ecological systems (Bronfenbrenner, 1977). Beliefs and exemplars perceived by the members of the cultures and subcultures within a society shape the norms

surrounding our expectations of and responses to individuals and groups (Bronfenbrenner, 1977).

Ageism is an example of a set of beliefs that can occur across ecological systems and can have a substantial influence on the ability of an individual to prosper in various social settings. Ageism is the manifestation of stereotypes pertaining to individuals of a certain age and as indicated by Iversen et al., (2009) can exist on multiple systems within the ecological framework including the macrosystem. Although, ageism can manifest as both negative and positive actions, the negative aspects such as exclusion and intergenerational hostility are salient to the risk of social isolation (North & Fiske, 2012). In fact, Wilson, Harris, Hollis, and Mohankumar (2011) suggested that addressing ageism is essential to the reduction of social isolation among the elderly.

Social Baseline Theory

As indicated previously, SBT posits an evolution-based explanation of the human need for conspecific interaction and proximity (Beckes, & Coan, 2011). Specifically, Beckes & Coan (2011) suggest proximity to other human beings is essential to the establishment of an emotional regulation baseline. Failure to meet socialization needs leads to increased threat awareness and depletion of metabolic reserves (Beckes & Coan, 2011). Conceptual support for the premise of SBT is evident in classical and contemporary research across disciplines. For example, Cole (2009; 2013) explored the negative impact of social isolation on gene expression. Other research has linked social

isolation to aggression (Yang & Richardson, 2013), increased dementia (Nicholson, 2012), and increased morbidity and mortality (Cornwell & Waite, 2009).

Collectively, the ecological framework and SBT would seem to have a symbiotic relationship relative to social isolation. The ecological framework provides a categorical lens to examine the various levels where influence can occur while SBT provides a general description as to why the manifestations and outcomes are probable when an individual lacks the necessary level of interaction.

Literature Review

A recent search using Thoreau for the keywords "social isolation" appearing in academic journals returned 21,533 peer-reviewed articles published since 1960, just over 6,000 of which were published prior to 2005. Although, a meager amount of research as compared to other topics, such as depression, which returned over 28,000 peer-reviewed articles between 2014 and 2015, depth of knowledge relative to social isolation has exploded across disciplines in recent years.

Given the broad range of definitions applied to social isolation and the diversity of research foci, it was necessary to identify recurring themes in the literature. The risks and manifestations associated with the development of social isolation emerged as the two primary themes, cultural variation, interventions, and implementations for social change emerged as supplementary themes. Appropriateness for inclusion of contemporary literature was determined by applicability to the identified themes and direct or cross application of findings to the population of older adults. Peer reviewed

research published more than five years ago was included if it contributed to the establishment of a historical foundation of social-isolation-related assumptions and evidence or if it served as a priori basis for current literature.

Classical Research

The association between social connections (or lack of) and well-being has been recognized for more than fifty years. Parsons (1942) suggested that within the United States, social isolation was more problematic for the older population than age-related income reduction associated with leaving the work force. Parsons (1942) also suggested that the social structure within the United States is hospitable to the development of social isolation. Specifically, a familial structure that promotes the isolation of nuclear family units and an occupational structure that lacks a transition period from working to retirement. Although Parsons (1942) focused on social isolation as indicated by objective measures and the role of social structure, Cumming, Dean, Newell, and McCaffrey (1960) perceived social isolation among the elderly as a natural and voluntary function of the aging process. Cumming and Henry's (1961) conception of disengagement theory (as cited in Lowenthal, 1964) soon followed. Despite the lack of support for disengagement theory generated by Lowenthal's (1964) investigation of social isolation and mental illness, it has remained a viable explanation for the association between advancing age and social isolation (Toepoel, 2013).

Building on the earlier work mentioned above, Lowenthal (1964) investigated the possible link between social isolation among the elderly and mental illness. One thousand

one hundred thirty-four individuals (N = 534 psychiatric patients and N = 600 community dwelling) aged 60 years and older in San Francisco, California participated in Lowenthal's (1964) research, which led to the identification of three main categories of participant (pure isolates, semi-isolates, and interactors) and subcategories. Contrary to the assumptions of disengagement theory, Lowenthal's (1964) research indicated that lifestyle choices were more consistently associated with degree of social isolation than age-related indicators. Discussion of the findings also recognized the existence of both objective and perceived/subjective isolation and that either could exist independently of the other (Lowenthal, 1964). Later research by Weiss (as cited in Cacioppo et al., 2014), operationally defined perceived isolation as loneliness, consisting of two distinct subtypes: emotional loneliness and social loneliness.

Contemporary Literature

An extensive review of the classical and contemporary literature supports the conclusion that global awareness of social isolation as a health and social risk is increasing and that more than half a century of research has not reduced the impact or incidence. This is not to say that the percentages of social isolation within a given population are increasing, the estimates related to social isolation prevalence have remained a range of between 7% and 43% (Nicholson, 2012; Pantell et al., 2013; Shankar et al., 2011). In fact, Paik and Sanchagrin (2013) found that the high percentages of individuals demonstrating shrinking social networks reported by the 2004 and 2010 General Social Surveys (GSS) were reflective of interviewer effects, not increasing

percentages of the American population. However, as older individuals are believed to be among the most vulnerable to the risk of social isolation (Pettigrew et al., 2014), projections indicating that the population percentages of older individuals will increase suggests that social isolation will increase along a similar trajectory (Hawton et al., 2011). Additionally, evidence of concern pertaining to the risks and incidence of social isolation in non-Western countries is emerging (Ibrahim et al., 2013; Murayama et al., 2011; Shimada et al., 2014).

Increased awareness across disciplines and internationally has resulted in considerable diversity of social-isolation-related foci. This has included identification of risk factors (Dickens et al., 2011), indicators (Gustafsson et al., 2013), culturally specific differences and similarities (Platt, 2009), manifestations (DeWall et al., 2011), outcomes (Dury, 2014), interventions (Dickens et al., 2011), and implications for public policy (Longman, Passey, Singer & Morgan, 2013). Additionally, social isolation can refer to either the objective state of social isolation or the subjective perception of social isolation that is often defined as loneliness (Parigi & Henson, 2014). Although objective and subjective isolation share many of the same risk factors, manifestations, and outcomes, there are a few differences and they can occur independently of or in conjunction with one another. What follows is an overview of the various social isolation areas of research, listed above, in relation to objective and subjective social isolation.

Risk factors and indicators of social isolation. Having few social ties, infrequent social interactions, and living alone are among of the commonly recognized

indicators of social isolation (Nicholson, 2012). The Lubben Social Network Scale - 6 (LSNS-6) and the 6-item de Jong Gierveld Loneliness Scale (DJGLS-6) are commonly accepted measures of social isolation (objective and subjective) that use self-report measures to quantify an individual's frequency of interactions and perceptions of social network availability and quality (de Jong Gierveld & van Tilburg, 2006; Lubben, 1988).

Many theories such as cumulative disadvantage theory and life course theory suggest that individuals experiencing disadvantage in their early years are at greater risk of susceptibility to social isolation in their later years (Bäckman, & Nilsson, 2011). Using structural equation modeling, Bäckman and Nilsson (2011) were able to demonstrate the indirect role of disadvantages, such as low educational opportunity and poverty, relative to the development of social isolation later in life. Vulnerability to the risk factors associated with the development of social isolation varies by individual, culture, and setting. For example, empirical evidence suggests that a predisposition to loneliness is in part heritable, and that loneliness can spread within a social circle (Cacioppo & Cacioppo, 2015). Other research has indicated a negative correlation between welfare generosity and social exclusion, indicating that increased funding of social welfare programs reduces vulnerability to common risk factors such as poverty (Saltkjel et al., 2013).

The risk factors associated with the development of social isolation encompass a wide range of circumstances and experiences. Each risk factor has the potential to act, individually or collectively, as a catalyst to the development of objective social isolation,

subjective social isolation, or both. Evidence of the potency of the phenomenon to be self-propelling exists in the tendency for social isolation manifestations to promote or emerge as additional risk factors. The various risk factors, many of which are intertwined with other risk factors, are discussed within the confines of six primary domains: demographics, economics, environmental, family and work, physical, and psychological (Nicholson, 2012).

Demographics. Demographic variables such as age, education, gender, income, marital status, race, and religion are among the risk factors related to the development of social isolation.

Age. In a study of (*N*=5,910) Dutch men and women over the age of 18 years the oldest individuals (*n* = 847, aged 65 years and older) were among the loneliest (Toepoel, 2013). Consistent with disengagement theory (Cumming et al., 1960) the act of aging, in and of itself, increases an individual's risk of becoming socially isolated (Nicholson, 2012). For example, evidence indicates that participation in social gatherings begins to decline at age 55, offering some support to the premise of disengagement theory (Toepoel, 2013). This may be due to the relationship between aging and other risk factors. For example, retirement is an anticipated reward associated with accumulated years in the workforce and aging, yet can lead to a decrease in social networks, change in social roles, and decline in socioeconomic status (Cornwell, Laumann, & Schumm, 2008; Hungerford, 2003). In fact, one of the few longitudinal studies of social isolation found

that retirement migrants over the age of 75 years were among the most at risk for loneliness (Wenger & Burholt, 2004).

The age-related stereotype ageism poses an increasing risk of social isolation for individuals as they age. Negative preconceptions about the elderly can exist at the micro, meso, and macrosystem levels (Iversen et al., 2009). Assumptions of decreased competence, elder abuse, discrimination, and subpar medical care are among the many expressions of ageism (North & Fiske, 2012). As the population of older individuals increases, the potential for increased resentment expressed as ageism by the younger generation increases.

Education. Level of education is correlated with the risk of developing social isolation (Lelkes, 2013; Nicholson, 2012). In one study, a significant negative correlation was found between obtaining more than 12 years of education and likelihood of developing social isolation (Bassuk et al., as cited in Nicholson, 2012). Salgado de Snyder et al. (2011) elucidated the role of educational attainment in relation to minimizing individual social isolation via increased opportunities for financial reward and escape from poverty. Alternatively, despite the correlation between education and internet usage, it is the lesser educated individuals who have demonstrated the greatest benefit associated using the internet (Lelkes, 2013). However, there are risks, such as potential ostracism associated with using electronic interactions as a replacement for face-to-face interactions (Kassner, Wesselmann, Law, & Williams, 2012; Luhmann, Schonbrodt, Hawkley, & Cacioppo, 2015).

Gender. The role of gender as a risk of social isolation tends to be dependent on other complementary variables. Within many cultures, being an unmarried male increases the risk of becoming socially isolated (Ibrahim et al., 2013). This may be due, at least in part, to some males being more prone than females to choose a life of isolation or employment that is conducive to a solitary lifestyle (Lowenthal, 1964; Wenger & Burholt, 2004). Unfortunately, although the voluntary nature of their isolation may reduce their incidence of loneliness, it does not reduce their social-isolation-related mortality risk (Yang, McClintock, Kozloski, & Li, 2013). Women are not immune to gender-specific risks of developing social isolation. For example, within the United Kingdom, women of certain ethnicities are among the most socially isolated (Platt, 2009). Additionally, women are more likely than men to perceive themselves as isolated and, as a result, feel lonely (Cacioppo & Cacioppo, 2015; Rook, 1984).

Income. Income as a predisposing risk factor of social isolation is consistently indicated within the literature (Cacioppo et al., 2014; Lelkes, 2013; Platt, 2009). The association between income and social support (Chan & Lee as cited in Choi et al., 2012) may offer an explanation as to why income is so frequently indicated as a risk factor for social isolation. Alternatively, Platt (2009) pointed to some forms of social participation as prohibitive to individuals of low income due to their inability to afford participation. The exception exists in countries with generous welfare programs (Saltkjel et al., 2013).

Marital status. Various marital statuses have been linked to an increased risk of developing social isolation (Cacioppo & Cacioppo, 2015; Lelkes, 2013). In their

investigation into emotional and social loneliness, Liu and Rook (2013) found considerable variation across marital statuses. For instance, a significant association was found between emotional support and emotional loneliness among married individuals but not among individuals who had previously been married. This finding supports earlier identification of married women as an at-risk group (Wenger & Burholt, 2004) and marital quality as an important component of social-isolation-related risk (Coan, Schaefer, & Davidson, 2006). Other findings suggest that widowed individuals are prone to seeking companionship and support from their adult children and that formerly married individuals are at greater risk of social loneliness than married individuals (Liu & Rook, 2013).

Race. No literature was found indicating that race, in and of itself increases an individual's risk of experiencing social isolation. However, migration and minority status of specific races has created racially specific increased risks. In a recent study examining social isolation in Los Angeles, California contextualized by race and neighborhood, Krivo et al., (2013) found that despite the risk of social isolation not being greater on the basis of race, African Americans and Latinos may be at greater risk of social isolation due to environmental factors within their neighborhoods and a perception that they are unwelcome outside of their neighborhoods. Nicholson (2012) pointed to racially specific social network differences being both counteractive and contributory to racial differences in social-isolation-related risks.

Within the United Kingdom, white British women were found to be the least likely residents to be socially isolated (Platt, 2009). However, across minority groups residing in the United Kingdom, women were more likely to be socially isolated than their male counterparts; Black African and Caribbean women were at the greatest risk of social isolation. A possible explanation for the racial differences within the United Kingdom may stem from racially specific differences in access to ethnic specific social capital and variations related to social participation (Platt, 2009). Similarly, within Hong Kong, female marriage migrants have been found to be more socially isolated than local women are (Choi et al., 2012). Although the distancing from established social ties is suggested as an explanation, lack of access to ethnic specific social capital might also contribute. Additionally, as indicated by Jehoel-Gijsbers and Vrooman (2007), lack of language skills consistent with the regionally dominant language might also be a contributor to racially specific risk factors among minorities.

Religion. Organizations such as religious congregations provide individuals an opportunity for social integration with and beyond the family unit (Platt, 2009). For many individuals, aging is associated with an increase in religious affiliation (Cornwell, Laumann, Schumm, 2008). The absence of these affiliations has been repeatedly associated with the risk of developing social isolation (Cacioppo et al., 2015; Pantell et al., 2013; Shankar et al., 2011). Given the social integrative value of religious affiliation, it is interesting to note that social isolation is common among clergy members (Staley, McMinn, Gathercoal, & Free, 2013). Although congregations provide ample social

support for their members, such support and the availability of peers tend to be lacking for clergy members, leaving them to feel separate from the communities they serve.

Economic. Throughout the literature low socioeconomic status (SES) is indicated as an indicator of and risk factor for developing social isolation (Lowenthal, 1964; Nicholson, 2012; Saltkjel et al., 2013). The impacts of low SES on older Americans include lower quality healthcare, inadequate social networks, and increased risk of stroke (American Psychological Association, 2015). Although, examined in the context of familial dyads, low SES of adult familial caregivers has been associated with elder abuse (von Heydrich et al., 2012). According to the American Psychological Association (2015), 43.5 million Americans function as caregivers to adults over the age of 50 years. If, the findings of the National Center on Elder Abuse (as cited in von Heydrich et al., 2012), indicating that approximately 4.1% of individuals receiving care from family member are abused can be generalized to the population, it is fair to estimate that nearly 2 million elderly individuals depending on care from a family member are subjected to, or at risk of physical and/or sexual abuse by their familial caregiver and low SES is a contributing factor.

At the individual level, education, employability, and work status influence an individual's economic status (American Psychological Association, 2015). Death of a spouse, declines in health, and retirement are among the common occurrences in the lives of older individuals that influence their SES. Retirement among the most impactful influences on SES; Social Security benefits are the sole source of income for 18% of

older Americans (American Psychological Association, 2015). Poverty among older Americans increased from 9.1% to 9.5% between 2012 and 2013 (Administration on Aging, n.d.). Supplemental measures of poverty that adjust for out of pocket medical expenses and other cost of living variables estimate that more than 14% of older Americans are impoverished.

The socioeconomic outlook is bleaker for women than for men. For example, older women are more likely to be impoverished than their male cohorts are (American Psychological Association, 2015). Additionally, a strong and significant positive correlation exists between the number of social ties a woman has and her age of retirement (Nicholson, 2012), increasing the risk of social isolation via a reduction in work related social participation and reduced income among those women already at increased risk.

Environmental. Cohabitation status and place of residence are associated with the risk of developing social isolation (Krivo et al., 2013; Pettigrew et al., 2014). The concept of "aging in place" is thought to be the ideal situation for able-bodied older individuals, affording them the ability to age with autonomy and dignity (Webster, Ajrouch, & Antonucci, 2013). In fact, the perception of the benefits associated with aging in place have led to the establishment of government programs such as the Community Innovations for Aging in Place Program (CIAIP) by the United States Administration on Aging (n.d.) and the World Health Organization has begun an international campaign promoting an Age-Friendly World. However, aging in place presents a number of risks

related to the development of social isolation. For example, living alone is a known risk factor of social isolation (Kim & Clark, 2015; Longman et al., 2013). Results of the 2014 U.S. Census Population Survey (as cited in Administration on Aging, n.d.) indicated that among individuals over the age of 65 years, 35% of women and 19% of men live alone. For the population of older individuals living alone, the nearest opportunities for social integration (their neighbors) exist within their neighborhood (Cornwell et al., 2008). As a result, neighbors provide older adults, and especially widowed older adults, important opportunities for social integration (Gardener, 2011; Liu & Rook, 2013).

Neighborhood characteristics can promote or hinder the realization of proximal social opportunities by older individuals (Gardener, 2011; Kim & Clarke, 2015). Characteristics such as proximity of neighborhood assets and perceived safety contribute to the ability and likelihood that an older individual will utilize neighborhood social opportunities (Burns et al., 2012; Ibrahim et al., 2013). For example, Gardener (2011) investigated the naturally occurring neighborhood social spaces, such as porches and lobbies, accessed by older individuals, and found them to be important components of socialization later in life. Specifically, areas utilized by younger people for the sole purpose of transitioning from one area to another provide older adults with opportunities for social interaction. Among the population of adults aging in place, these areas of potential interaction can be especially important, especially if travel outside of the immediate neighborhood is reduced due to mobility or transportation issues (Webster et al., 2013).

The absence of mobility and transportation issues does not negate the need for close proximity of neighbors and neighborhood assets. For example, earlier research indicated that a distance of 50 yards between an individual and their closest neighbor was sufficient to place an individual at risk of developing social isolation (Wenger & Burholt, 2004). Other research found that when the distance between two individuals exceeded 5 miles the frequency of face-to-face interaction declined significantly (Mok & Wellman as cited in Parigi & Henson, 2014). In addition to criminal activity, structural deterioration of neighborhood buildings, roadways, and streets are symptoms of neighborhood decline that contribute to fear induced social withdrawal and self-imposed isolation among older individuals who are aging in place (Kim & Clarke, 2015).

Unfortunately, some efforts to increase safety and revitalize deteriorating neighborhoods have been associated with increased social isolation among older long-term residents (Burns et al., 2012; Kim & Clark, 2015). In their investigation of social integration among older residents of urban Detroit, Kim and Clark (2015) found that although neighborhood watch programs and the related signage decreased neighborhood crime, it also decreased engagement in neighborhood social interaction by older residents. Alternatively, gentrification occurs when neighborhood revitalization efforts attract an influx of new residents of a higher socioeconomic status than that of long-term and previous residents, often times altering the culture of the neighborhood (Burns et al., 2012). As a result, the circumstances experienced by long-term residents and individuals who are aging in place are inconsistent with a healthy ecological model of aging, leaving

them to feel out of place and excluded from the community (Burns et al., 2012) because they no longer "fit" with their environment (Greenfield, 2011).

Family and work. An individual's home and place of work are key social integration environments (Gardener, 2011). Alteration to, conflict within, and/or lack of familial and work relationships have been linked to the risk of social isolation (Bäckman, & Nilsson, 2011; Cacioppo et al., 2014; Dury, 2014). However, as individuals age, their roles within the family unit and workplace are likely to change. For example, it is not uncommon for older individuals to care for an ailing spouse (Cole, 2009; Wenger & Burholt, 2004). The transition from partner to caretaker can result in a loss of social support previously provided by the ailing spouse and a reduction in opportunities for social interaction (Cole, 2009). Other changes to roles within the family can also lead to similar increases of social isolation risk factors and outcomes. For example, although living near one's adult children has been associated with reduced social isolation, living with them has been associated with increased risk of elder abuse, social isolation, and suicide (Shimada et al., 2014; von Heydrich et al., 2012; Wenger & Burholt, 2004).

Maintaining static relationships with family members and non-kin others is not sufficient to stave off social isolation. Evidence suggests that relationship quality is pivotal in the amelioration or development of actual and perceived isolation (Cacioppo et al., 2011). High quality relationships and social support act as buffers to the development of social isolation but poor-quality relationships and negative interactions (such as conflict) can increase an individual's level of vulnerability (Cacioppo, Cacioppo, Cole,

Capitanio, Goossens & Boomsma, 2015; Liu & Rook, 2013). Threats to the continuation and health of social relationships can be especially damning to individuals with small social networks or those subject to age-related decreases in social gatherings (DeWall et al., 2011; Toepoel, 2013).

Conflict, a known predecessor to isolation, is associated with and has the potential to promote aggressive behavior and violence (Cacioppo et al., 2013; DeWall et al., 2011; Holt-Lunstad et al., 2015). Conflict occurring within employment or familial relations can cause the associated environment to become hostile, threaten the individual's relationship roles, and potentially lead to severed relationships (Rook, 2014). For example, within the familial setting, conflict can lead to divorce. Divorce alters the individual's role within the immediate family, parent-child relationships, and the dynamics of extended familial relations (Riggio & Valenzuela, 2011). Such alterations to relationships and roles within the familial environment potentially result in estrangement from the family unit or individual members. Alternatively, conflict within the work environment has been associated with spillover into other environments and relationships, potentially increasing conflict in external relationships and inspiring relationships withdrawal (Martinez-Corts, Demerouti, Bakker & Boz, 2015). Thus, conflict within family and work social networks can increase an individual's risk of developing social isolation by potentiating decreases in engagement within, quality, and quantity of supportive relationships.

As previously indicated, familial and work-related relationships are important components of an individual's social network. In the absence of these relationships, the risk of social isolation increases (Cloutier-Fisher et al., 2011). In addition to conflict, there are numerous family and work-related circumstances that can decrease or eliminate an individual's social relationships such as death, disability, and distance (Cloutier-Fisher et al., 2011; Webster et al., 2013; Wenger & Burholt, 2004). As individuals age, deaths among their similarly aged family members and workmates begin to mount, eliminating those persons from an individual's social network (Liu & Rook, 2013). Coworker retirement and age-related declines (cognitive function, mobility, etc.) of family members and workmates that lead to their exiting shared environments has been associated with a decrease in social network ties and a risk of social isolation (Nicholson, 2012). Alternatively, caring for an ailing spouse in the home may retain the physical presence of the individual but potentially confines an individual to their home, reducing their opportunities, and potentially their desire, for external social contact (Wenger & Burholt, 2004).

Personal choice resulting in the absence or decrease in number of social contacts does not insulate an individual from the risk of developing social isolation. For example, retirement decreases access to employment-related social circles and potentially increases the risk of social isolation (Cornwell et al., 2008; Nicholson, 2012). Evidence suggests that approximately 30% of elderly individuals are visited by a family member or friend less than once per year (Findlay & Cartwright as cited in Thomas et al., 2013), suggesting

that voluntary withdrawal from the workforce and/or retirement migration can be socially devastating for older individuals. Although, some individuals who have minimal or no family or social contacts as the result of career or personal choice may or may not experience subjective social isolation, their risk of objective social isolation is extremely high (Lelkes, 2013).

Physical. Health conditions that impair an individual's ability to communicate with others or navigate their environment have been associated with increased risk of developing social isolation (Mick et al., 2014; Pettigrew et al., 2014). Although the relationship between sensory losses and social isolation is not greater for older adults than younger adults (Mick et al., 2014), the prevalence of age-related sensory losses of individuals over the age of 70 years is significant in comparison to similar deficits among younger adults (Whitson & Lin, 2014). Incontinence and functionality deficits such as dementia, cognitive decreases, and mobility impairments have also been indicated as social isolation risk factors (Nicholson, 2012).

Health conditions not specifically indicated as being associated with the risk of social isolation can contribute as part of cluster or group of ailments plaguing the individual. For example, having four or more chronic illnesses nearly doubles an individual's risk of developing social isolation (Nicholson, 2012). As individuals age their risk of experiencing multiple chronic health conditions increases (Kleinman & Foster, 2011). Prevalence of multiple chronic health conditions among older individuals is noteworthy. Among beneficiaries of the Older Americans Act Title III, it is estimated

that between 73% and 90% have more than one chronic illness and that between 41% and 53% have six or more chronic illnesses (Kleinman & Foster, 2011). By comparison, Lochner, Goodman, Posner, and Parekh (2013) found that in 2011, 67.3% of all Medicare beneficiaries had more than one chronic illness and 14% had six or more chronic conditions.

Physiological factors relevant to the risk of social isolation are not limited to health conditions, mobility limitations, and sensory impairments. Evidence is emerging suggesting genetic and physiological components that influence individual variation in social cue interpretation and social integration (Cacioppo et al., 2014; Cacioppo et al, 2013). For example, several studies of twins have demonstrated a heritability component of the subjective experience of social isolation (Boomsma, Cacioppo, Slagboom, Posthuma, 2006; Boomsma, Willemsen, Dolan, Hawkley, & Cacioppo, 2005; Marijn et al., 2010). Other research has determined that preferential sensitivity to negative or positive stimuli is associated with an individual's allele variation (short or long respectively) of the serotonin transporter gene (Cacioppo et al., 2013). Additionally, evidence is emerging indicating that oxytocin decreases amygdala sensitivity and that amygdala volume is associated with social network size and complexity (Bickart, Hollenbeck, Barrett, & Dickerson, 2012; Coan et al., 2013). The risk of developing social isolation as a result of these physiological factors can occur in concert with but is also independent of any associated psychological disorders such as depression.

Psychological. Documentation of the association between mental illness and social isolation has been documented for more than 50 years (Lowenthal, 1964). Autism, bipolar disorder, and schizophrenia are among the psychological disorders that have been associated with an increased risk for social isolation (Farrelly et al, 2014; Orsmond, Shattuck, Cooper, Sterzing, & Anderson, 2013). Some of the risk associated with the development of social isolation may stem from an individual's behavioral manifestations of mental illness. However, the actualization of discrimination, fear of being discriminated against, and mental illness related stigmas also contribute to an individual's risk of developing social isolation (Farrelly et al., 2014). Similar to their increased vulnerability for physiological disorders, older individuals are at increased risk of suffering psychological disorders such as anxiety and depression (Irshad & Chaudhry, 2015).

Cultural variations. Cultural differences in the perceptions of and behaviors towards older individuals contribute to the cultural variations in the primary dimensions of social isolation among the older population. For example, in Japan, approximately 75% of persons over the age of 65 years live with family members, yet social isolation and elder suicide remain problematic (Shimada et al., 2014). Of particular interest is that elder suicides were higher for individuals living with family members than those who lived alone. Alternatively, in Pakistan, where older individuals typically share a home with younger family members, older individuals are avoided by and segregated from members of the younger generation (Irshad & Chaudhry, 2015). For older individuals,

long periods of time spent during the day (nine or more hours) without human interaction increases an individual's risk of social isolation (Wenger & Burholt, 2004). As such, well-meaning family members potentially facilitate the development of social isolation via abandonment or exclusion.

Culturally specific social tendencies may contribute to the development of social isolation. Platt (2009) found vast social participation differences between ethnic groups within the United Kingdom. For example, Black Caribbean women were least likely to receive visitors or visit family or friends. In contrast, Bangladeshi men and Pakistani women were most likely to receive visits from family and friends (Platt, 2009). Levels of social isolation varied between groups as well as for men and women of the groups. For example, Bangladeshi men and British women were the least socially isolated but Black African and Black Caribbean men and women were the most socially isolated (Platt, 2009). Other research has found country-specific differences in social contact frequency. An examination of the social isolation and participation of individuals within 26 European countries indicated that individuals in Greece and Hungary had the fewest social encounters and were the most likely to be socially isolated (Lelkes, 2013). In contrast, within Slovakia 30% of the respondents reported having no friends (20% felt lonely at times) and in the Ukraine just over 20% had no friends but 30% felt lonely (Lelkes, 2013). Overall, approximately 15% of individuals over the age of 65 years, and 20% of individuals over the age of 80 years have no friends, rarely meet with friends, or

are lonely. Consistent across cultures is that each measure of social isolation is independent of the others.

Manifestations and outcomes. Within the literature, social isolation has been associated with a myriad of potential manifestations and a singular outcome: increased mortality. Manifestations resulting from objective and subjective isolation are similar (Shankar et al., 2011). However, the evidence suggests that subjective isolation is more strongly associated with some manifestations and is associated with an increased risk of developing Alzheimer's disease (Cacioppo et al., 2011). The potential manifestations have been categorized as behavioral, physiological, and psychological (Alspach, 2013; Nicholson, 2012).

Behavioral manifestations. Although disputed as a catchall explanation for the behavioral manifestations of social isolation, social control theory offers a plausible explanation relative to the potential for alcohol consumption, poor nutrition, and sedentary lifestyle as associated manifestations (Cacioppo et al., 2011; Nicholson, 2012). Other behavioral manifestations such as early retirement, decreased prosocial behavior, decreased self-regulation, and increased aggression would seem counterintuitive relative to the possibility of reintegration. For example, retirement potentially leads to changes in social roles and decreases in contact with non-kin social ties, yet evidence indicates that women with small social networks are considerably more likely to retire early than their better-integrated cohort (Cornwell & Waite, 2009; Nicholson, 2012). Alternatively, levels of social-isolation-related decreases in prosocial behavior and self-regulation seem to

fluctuate relative to the reward potential attributed to a specific act (DeWall et al., 2011; Cacioppo et al., 2014; Powers et al., 2013).

The relationship between glucose and self-regulation might provide insight as to why reward potential is a factor in the levels of self-regulation demonstrated by socially isolated individuals. As indicated by Gailliot et al., (2007), self-regulation tasks deplete blood glucose levels and are followed by a decrease in self-regulation that can be increased by replenishment of glucose. Henriksen et al., (2014) found a correlation between subjective social isolation and sugar intake. This suggests that subjective social isolation elicits a glucose depleting response similar to other stressors. Displays of aggression are a function of self-regulation (Gailliot, 2007) but the evidence suggests that among the socially isolated, increased awareness of social threats is relevant to increases in aggression and hostility.

Physiological manifestations. The physiological manifestations associated with social isolation extend beyond what can be attributed to unhealthy behavioral manifestations such as alcohol consumption, poor nutrition, and smoking. Increases in blood pressure (Holt-Lunstad et al., 2015), fragmented sleep (Cacioppo & Cacioppo, 2015), inflammation-related illnesses (Cole, 2009), risk of dementia (Dickens et al., 2011), and vulnerability to viral infections (Cole, 2009, 2013) as well as cognitive decline (Ibrahim et al., 2013), and decreased response to vaccinations (Cole, 2013) are among the more apparent social isolation physiological manifestations. Additional manifestations such as altered gene expression and increased risk of Alzheimer's disease have been

associated with subjective social isolation but not objective social isolation (Cacioppo et al., 2011). Collectively, the research indicates that social isolation poses a health threat. Although, the risk of experiencing physiological manifestations is greater for individuals experiencing subjective isolation than it is for individuals experiencing objective isolation, the threat to overall health exists for both, including those individuals who have chosen a solitary lifestyle.

Detailed discussion of the complex neurological processes and specific brain regions associated with social-isolation-related physiological changes is beyond the scope of this research. However, neuroscientific interest is increasing and has documented numerous physiological changes that might provide insight relative to the associated behavioral changes and health declines. For example, fMRI studies have demonstrated that social isolation is associated with heightened threat awareness and increased visual attention to negative social cues (Cacioppo et al., 2011; Powers et al., 2013). Further, electroencephalographic imaging has demonstrated that individuals experiencing subjective isolation have faster processing-responses to threatening stimuli than nonthreatening stimuli and individuals who do not perceive themselves as isolated (Cacioppo et al., 2015). Other neuroscientific research has identified a relationship between social isolation and increased activation of the hypothalamic-pituitary-adrenal (HPA) axis in relation to cortisol release (Cacioppo et al., 2015). Additionally, physiological responses to social isolation have been indicated relative to the biological basis for some behavioral and psychological manifestations (Cole, 2013).

Psychological manifestations. For more than half a century, the relationship between social isolation and mental illness has been recognized (Linz & Sturm, 2013; Lowenthal, 1964). Anxiety (Chou, Liang, & Sareen, 2011), depression (Chou et al., 2011; Hawton et al., 2011), increased financial risk-taking (Duclos, Wan, Yuwei, 2013), increased incidence of mental health related disability (Gustafsson et al., 2013), increased risk of developing dementia and Alzheimer's disease (Cacioppo et al., 2011), increased severity of pre-existing mental illness (Yee et al., 2015), reduced self-confidence (Longman et al., 2013), and increased risk of suicide (Congdon, 2012) are some of the psychological manifestations of social isolation. Loneliness presents an example of how many of the manifestations of social isolation are also risk factors of social isolation. Within the literature, loneliness is often the term used to refer to subjective isolation (Cacioppo et al., 2011). As both objective and subjective isolation (unless specified otherwise) are associated with the manifestations discussed, the emergence of subjective social isolation that is secondary to objective isolation further increases an individual's vulnerability to the negative manifestations and outcomes associated with social isolation.

Social isolation outcomes. The existing literature is very clear that in the absence of successful interventions, the outlook for individuals experiencing objective and/or subjective isolation is bleak. In addition to increased vulnerability to accidental injury, institutionalization, and repeated hospitalization, premature death from all causes is also indicated (Longman et al., 2013; Nicholson, 2012). Using data on more than 16,500

individuals, Pantell et al. (2013) found that individuals with low social network scores (based on the Berkman-Syme social network index) had mortality rates similar to those associated with other established risk factors such as high blood pressure. A recent study in Canada found that more than 20% of the premature deaths occurring between 1995 and 2005 could be attributed to social deprivation (Saint-Jacques, Yunsong, Parker, & Drummer, 2014). Alspach (2013) reviewed numerous studies indicating that social isolation was a risk factor and predictor of mortality from all causes and specifically breast cancer and coronary artery disease. A possible contributor to the association between social isolation and mortality is inflammation, which can be secondary to social isolation, and seems to be more significant for men than women (Yang et al., 2013).

Disagreement exists relative to the form of social isolation (objective or subjective) that poses a greater risk of mortality. For example, a study of the association between social isolation and mortality using Finnish participants found that loneliness and social inactivity were strongly related to premature mortality but objective social isolation alone was not (Tilvis et al., 2012). Alternatively, a recent investigation found that both objective and subjective social isolation are associated with premature mortality, but that effect of subjective loneliness was influenced by demographic factors (Steptoe, Shankar, Demakakos, & Wardle, 2013). Despite the inconsistencies as to which form of social isolation (objective or subjective) has a greater influence on premature mortality, the evidence is clear; in the absence of effective interventions social isolation will continue to impair longevity.

Interventions. Successful interventions have been employed (Dickens et al., 2011) and more continue to emerge (Hawton et al., 2010). However, many interventions target a singular dimension of social isolation that may not be appropriate or helpful to many of the individuals the intervention in meant to serve. For example, following an early set of interventions focused on the loss of a spouse it was determined that meetings inclusive of both sexes were beneficial for participants if the former spouse was still living but potentially damaging to widows and widowers (Rook, 1984). Additionally, many interventions simply do not offer what the intended beneficiaries need or want (Wenger & Burholt, 2004). As indicated by Wilson et al. (2011), combatting ageism might provide the best option for decreasing social isolation among the elderly.

Implications for change. The process of aging is inevitable. Facilitating the conception of possible selves that are reflective of the representations of older individuals who we are exposed to may promote empathy for others and/or activate avoidance based self-protective measures, which can translate into potential policy change. Articulation of the experiences of older individuals at risk of developing or experiencing social isolation in their own words may be sufficient to grab the attention of policy makers, facilitate internalization of the experience, and promote policy change. However, the promotion of policy change can be difficult, especially if not considered in the early stages of research. Dietel and McKenna (2013) suggest that creation of a model representing the intended use of the research will aid in defining which aspects of the research and methods of dissemination are relevant to specific audiences. Specific to the presentation of research

to policy makers, they suggest attention-grabbing problem first presentations supplemented with a very short and easy to read unbiased publication that communicates the problem, research, and results. Creswell (2009) discussed the rich description found in qualitative research as potentially facilitating readers the opportunity to experience the sensation of shared experience with the study participants.

Summary

An exhaustive review of the literature indicates that social isolation is a complex phenomenon that poses a health risk to the population of older individuals. The vast array of potential risks encountered by this population spans across all of the system levels identified by Bronfenbrenner's (1979) ecological systems theory. Social baseline theory provides an explanation as to why objective and subjective isolation potentiate the deleterious manifestations and outcomes associated with social isolation (Beckes, & Coan, 2011). Although, social isolation is not exclusive to the older population, this population is more vulnerable to the associated risks and manifestations (Dury, 2014). Research pertaining to the risk factors, manifestations, and possible methods of intervention continue to emerge (Cacioppo & Cacioppo, 2015; Greenfield, 2011; Holt-Lunstad et al., 2015). However, current interventions address singular aspects of social isolation and few are responsive to what this population needs and/or want (Dickens et al., 2011; Wenger & Burholt, 2004).

Asking this population directly what might facilitate their increased social integration and reduce the threat of social isolation would inform the development of

responsive interventions. Conversely, asking population members what was most salient to their risk of social isolation potentially informs the development of preventative strategies. Understanding that the opinions and viewpoints might be limited by cultural or geographical relevance, interpretive phenomenology provides a method of data collection appropriate for dissemination of the perceptions held by select group members. Discussion of the steps taken to employ this qualitative investigation of the risk of social isolation among the elderly follows.

Chapter 3: Research Method

Social isolation is a multidimensional phenomenon resulting from an actual or perceived lack of social ties. The goal of this study was to increase understanding of the experiences that lead to, perpetuate, and potentially alleviate social isolation among the elderly. With these goals in mind, the qualitative research strategy of interpretive phenomenological exploration guided the study. Ten older individuals who live alone participated in interviews, responded to a series of short questionnaires, and made daily journal entries for two weeks. Methods associated with increasing trustworthiness of qualitative research were employed throughout the process of data collection, analysis, and interpretation. Additionally, steps were taken to minimize the influence of researcher bias.

Research Design and Rationale

Research Questions

1. What emotions and thoughts do older individuals at risk for social isolation have about living alone?
2. Based on their experience and perceptions, what do older individuals at risk for social isolation think are the factors that result in social isolation?
3. Based on their experience and perceptions, what do older individuals at risk for social isolation think are the factors that prevent social isolation?
4. Based on their experience and perceptions, what do older individuals at risk for social isolation think are the factors that promote social integration?

Qualitative Methods

The primary goal of this study was to increase understanding of the phenomenon of social isolation as a lived experience. Interpretive phenomenology was selected as the research design because it is associated with capturing the essence of a phenomenon by providing a medium for the context and expression of participant perceptions (Creswell, 1998; Ingham-Broomfield, 2015; Moustakas, 1994; Walker & Solvason, 2014). A secondary goal of this study was to provide research participants the opportunity to reflect on their life experiences and possibly increase their sense of empowerment. Participant empowerment is often associated with processes such as reflection and topic exploration normally associated with participatory action research (Kidd & Kral, 2005). Both methods of increasing participant empowerment were realized through the methods of data collection used in this study.

Role of the Researcher

The researcher's role in this study was to collect, analyze, synthesize, and articulate the perceptions reported by the study participants in a manner that was objective and free of researcher bias. As a human instrument of the research and dissemination process, the researcher had two primary roles: to be the collective voice of the participants and to provide a medium for readers to access the experiences and perceptions of the participants. The intent of this researcher was to fulfill these roles in the least biased and most objective manner possible. Morse (2015) identified three types of researcher bias: biased questions, bias pertaining to researcher expectations of the

collected data, and sampling bias. This researcher spent a considerable amount of time researching prior literature and had a stake in the findings. Therefore, the researcher was not without bias or preconceived ideas. It was expected that the use of open-ended questions would minimize the potential bias related to question formulation. Adherence to inductive protocols during the data collection and analysis phase may also minimize bias related to researcher expectations (Morse, 2015). Researcher bias can also influence the themes and theories (Shenton, 2004). It is possible that this researcher's preconceived ideas about to the manifestations associated with social isolation might have influenced researcher interpretations and conclusions about causal relationships. Shenton (2004) suggested that member checking, specifically asking participants to provide their thoughts relative to causal connections, can be employed to minimize researcher bias. Therefore, member checking was employed to reduce researcher bias. Sampling bias might have occurred because random sampling was not appropriate.

Reflexivity and bracketing are additional strategies for minimizing researcher bias (Chan, Yuen-ling, & Wai-tong, 2013; Minnich, 2014). Reflexivity assists the researcher in identifying existing and potential sources of bias; bracketing is the method used to minimize their influence (Chan et al., 2013). The method of bracketing suggested by Chan et al. (2013) instructs the phenomenological researcher to follow four basic steps. The first three steps include determining whether the researcher is capable of setting aside personal knowledge, defining the scope of the literature review, and determining that topic comprehension is sufficient to present the proposal (Chan et al., 2013). The

researcher completed the first three steps prior to participant recruitment, and reflexivity activities were continued throughout the study. The fourth step pertains to data analysis and member checking, which are discussed in subsequent sections.

Methodology

Participants

Creswell (1998) indicated that between five and 10 individuals are appropriate for inclusion in a phenomenological study. Therefore, 10 participants were recruited for this study. Selection criteria included living alone in a private residence, speaking English, and being 60 years of age or older. Other demographic characteristics such as race or sex were not relevant for inclusion. However, participant diversity relative to sex, race, and religion was desired.

Recruitment of men and women who fit the criteria necessitated purposeful criterion sampling that was enhanced via snowball sampling. For purposes of human research, members of this population were identified as vulnerable (United States Department of Health and Human Services, 1979). Additionally, individuals at risk of developing social isolation are likely to be members of a hidden population. Therefore, charitable organizations, government organizations, residential community liaisons, and individuals known to the researcher were contacted to initiate access to population members. Organizations contacted were sent a letter outlining the scope of the research, a copy of the consent form, and evidence of the IRB approval. Potential participants were

contacted to discuss the basis for the research, define participant criteria, explain the participation parameters, and determine inclusion status.

Initial contact was made with 15 potential participants. Two potential participants opted out prior to the initial meeting due to illness. One potential participant was uncomfortable with the idea of having her voice recorded and decided she did not want to participate. A man who had expressed interest in participating was perceived as no longer interested when he did not return any of the voice messages left for him. Following the initial meeting with one participant, the researcher determined that participation would be too burdensome for her. The remaining 10 potential participants were included in the study.

Instrumentation

This study used multiple instruments to collect data. Published data collection instruments included a selection of questions taken from the American Community Survey, the Abbreviated Lubben Social Network Scale (LSNS-6), and the 6-item de Jong Gierveld Loneliness Scale. Data obtained by these scales provided a more comprehensive description of the participants. For example, many demographic variables are associated with the risk of social isolation (Nicholson, 2012). Inclusion of a self-report measure of demographic variables provided insight into an individual's demographic risks of social isolation. Alternatively, the LSNS-6 and the 6-item de Jong Gierveld Loneliness Scale are used to measure an individual's level of objective and subjective social isolation (de Jong Gierveld & van Tilburg, 2006; Lubben, 1988). Although these measures are

generally used in large-scale quantitative studies, no statistical analysis was performed due to their intended purpose of increasing the understanding and description of participants.

Intended use does not negate the necessity of using reliable and valid scales or obtaining proper permission for their use. Information obtained using published data collections tools has the potential to increase researcher bias. Therefore, the researcher placed survey data in a coded and sealed envelope that was not opened or viewed until after the interviews were completed, diaries collected, and data analyzed. The researcher developed the diary and interview questions.

Published instruments. The LSNS-6 is an established scale for measuring social isolation among the elderly (Lubben et al., 2006). The scale has been determined to have good reliability and validity, and permission to use the scale for research purposes is freely granted (Boston College, 2015; Lubben et al., 2006). The 6-item de Jong Gierveld Loneliness scale is used to quantify an individual's level of loneliness (de Jong Gierveld & Van Tilburg, 2011). The scale is reported to be of good reliability and validity (de Jong Gierveld, & Van Tilburg, 2010). Permission is granted for research purposes with the stipulation that the authors be credited. Demographic data collected using questions found in the American Community Survey are for descriptive purposes only; therefore, measures of reliability and validity do not apply. Use of the questions does not require any form of permission as the material is public domain. The five-field map has been previously used with good reliability to identify the social networks of individual children

and initiate dialogue regarding those relationships (Samuelsson, Thernlund, & Ringstrom, 1996). This researcher adapted the five-field map to be reflective of the relationships older adults are known to have. Permission to use was granted through the publisher's automated system.

Researcher-developed instruments. The researcher developed two instruments for use in this study: diaries and interview questions. Every morning for 2 weeks, participants answered a series of eight identical questions reflective of social isolation risk factors and manifestations. The diaries were preformatted with a list of daily life questions such as "how did you sleep last night?" and "how are you feeling today?" It was anticipated that most participants would be able to complete their diary entries in less than 10 minutes each day. Audiotape-recorded interviews were conducted using a set of 40 predetermined open-ended questions that relate to the six dimensions of social isolation within the ecological systems context. Participants were given a copy of the questions to ensure comfort with them and to minimize the potential for misunderstanding. Sample questions included "What are some of the ways you enjoy spending your time?" and "What are your thoughts about the attitudes of people in your neighborhood and community towards older people?" In addition to recording interviews, the researcher also took notes during the interviews.

Data Collection

Collection of data for this study consisted of three meetings with each participant, included six separate instruments, and occurred over the course of four to six weeks. Five

of the instruments were self-report measures: a demographic survey, the 6-item de Jong Gierveld Loneliness Scale, the LSNS-6, a social support profile, and a two-week diary. The sixth instrument was the open-ended interview. Harris and Brown (2010) highlighted the potential for lack of alignment between data collected via interview and self-report questionnaire. Data collected via the self-report measures was intended for the purpose of increased understanding and enhanced description of participants. However, lack of alignment between self-report measures was noted and alerted the researcher to the possibility that some participants might have exhibited social desirability bias

Distribution of the diaries and administration of the demographic survey and social isolation measures occurred during the initial meeting at a location of the participant's choosing. One participant chose to conduct the initial meeting on her porch, another at her community clubhouse, all others took place within the participants' homes. This meeting took less than 30 minutes. The potential for self-report measures to prime or trigger participant responses during the interview is a possibility when combining data collection tools (Galasinski & Kozlowska, 2010). The minimum two-week duration between conducting the interviews and completing the demographic survey and social isolation measures was intended to minimize their potential influence on the interview. Potential triggers related to the diary entries were sought due to their potential to reveal themes not uncovered by the interview questions.

The second meeting occurred between two and four weeks after the initial meeting and was expected to last approximately 1.5 hours. Nine interviews lasted

between 20 and 60 minutes. One interview lasted three hours and at the participants request was conducted in two sessions. Social support profile data was collected prior to the formal interview questions as a means of breaking the ice and inspiring participant disclosure about their relationships. During the interviews, participants were encouraged to share descriptions and examples as a part of their responses. As noted previously, diaries and interviews offer research participants an opportunity for empowerment and reflection (Jean, 2013; Kemmis et al., 2014). Upon completion of the predetermined interview questions, participant diaries were reviewed with the participants and the participants were given the opportunity to elaborate on their diary entries. As indicated by Chan et al., (2013) bracketing techniques, specifically listening to participant responses and probing for additional information reduces the emergence of researcher influence on the data collection process and potentially reveals pertinent information not addressed in the interview questions. The interview was closed by exploring any topics the participant believes should have been included and participant thoughts on participating in the research process.

The third meeting took after the interviews were transcribed. These meetings took place via telephone and lasted less than 30 minutes each. The sole purpose of the meeting was member checking. Member checking is a method of verifying research findings by discussing them with contributing research participant and is the final step of the Colaizi method of phenomenological data analysis (Shosha, 2012). This final step of data

collection is associated with increased accuracy of data interpretation and validity of qualitative findings (Chan et al., 2013).

Procedures for Recruitment, Participation, and Data Collection

The establishment of credibility and rigor in qualitative research is essential to the acceptance of its scientific value. Barbour (2001) discussed the use of checklists containing strategies such as purposeful sampling, respondent validation, and triangulation to establish qualitative rigor. Alternatively, audit trails, bracketing, prolonged engagement, and reflectivity are among the other methods of establishing the reliability and validity of qualitative research (Barusch, Gringeri, & George, 2011). The researcher employed each of the methods mentioned. The procedural plan below guided this researcher and served as the first step towards an audit trail:

1. Contact representatives from: independent living communities, local aging related agencies, nonprofit agencies that serve the elderly population, and senior centers to gain access to local individuals living alone.
2. Provide the representatives contacted with an information packet containing information pertinent to the study and fact-sheet flyers for distribution to potential participants or other community stakeholders that might assist with participant recruitment.
3. Follow up with contacted representative for referrals to potential participants.

4. Contact all participant referrals to verify criteria-based qualification, confirm or solicit their participation in the study and make appointments for initial meetings.
5. Conduct initial meeting at a location of the potential participant's choice. During the initial meeting explain purpose of the research, explain the confidentiality agreement, published scales, diaries, and interview process. Verify potential participant's desire to be included in the study and obtain signed consent forms from individuals opting to participate. Administer self-report instruments and placed in a coded and sealed envelope. Provide participants with diaries and schedule second meeting to occur two to three weeks later to conduct interview and collect diary. Participants will be asked if they would like to receive a daily reminder email, phone call, or SMS and if so at what time. At the close of the first meeting provide participant with the resource guide and gift card.
6. Make daily reminder contact.
7. Contact participants to confirm scheduled appointments and reiterate the voluntary nature of participation.
8. Collect and review diaries. Fill in social support profiles and review with participants. Conduct recorded face-to-face interviews at the scheduled time and place.

9. Schedule a follow up appointment to verify collected data (one to three weeks later). Remind participants that the resource guide received at the first meeting contains a list of local service providers in the event they attribute any discomfort to participating in the study and make a sheet of these providers available to them.
10. Transcribe audiotaped interviews.
11. Verify accuracy of transcribed interviews.
12. Review data collected via diary and interview with each participant to verify accuracy (i.e., member checking).
13. Analyze data according to the Colaizzi and interpretative phenomenological analysis (IPA) methods (described below).
14. Review and score the published scales for each participant.

Data Analysis Plan

Prior to analysis of the data, audiotaped interviews were transferred to this researcher's personal computer. For purposes of transcription, a virtual audio cable was installed and replaced computer speakers during the automatic transcription process using Google Speech to Text software. Because interviews were simultaneously recorded on two devices, both recordings were transcribed and compared to minimize the potential for error. The cleanest transcription was then used as the base for listening to the recorded interviews and checking for errors.

The Colaizzi method (Shosha, 2010) and interpretive phenomenological analysis (IPA) as described by Larkin and Thompson (2012) was employed to analyze the transcribed interviews and diary entries. The initial step of the Colaizi method involves reading the entire transcript a sufficient number of times to have a firm grasp of the participant's perception (Shosha, 2010). Responsive researcher thoughts and feelings are entered into the researcher's reflexivity journal. The thorough line-by-line analysis of the transcripts to identify experiences and perceptions salient to the participant (as indicated in IPA) follows (Larkin & Thompson, 2012). Consistent with the Colaizzi method and IPA, the next step involves identifying and recording emergent patterns and themes that are given meaning within the context of the participants circumstances (Larkin & Thompson, 2012; Shosha, 2010).

The collected data, meanings, and themes were then organized into a coherent structure that illustrates the transitions from coded data to themes and clusters of themes as well as the relationships between the themes. In accordance with IPA, a collaborator will review the organized data to determine the plausibility of the researcher's data interpretation. A descriptive narrative based on individual participant and collective participant interviews would normally be the next step. However, it seemed more appropriate to apply the steps applicable to the analysis of interviews to participant diaries. Therefore, the diaries were analyzed next and emergent patterns and themes were merged with those revealed during the interviews. Additionally, data collected in the self-

report demographic survey and social isolation scales increased understanding of participant specific contexts and add richness to participant descriptions.

Analysis of demographic data was inclusive of review and summarization. As a means of adding to the descriptions of participant circumstances and individual context, it provided an opportunity for contrasting participants. Inclusion of the social support profile provided participants and the researcher the opportunity to visualize and reflect upon the frequency and types of relationships the participant engages in. Analysis of the 6-item de Jong Gierveld Loneliness Scale and the LSNS-6 adhered to the author's scoring guidelines (de Jong Gierveld & van Tilburg, 2006; Lubben, 1988). Scores assigned to participants based on these instruments were not used for the purpose of diagnosis; instead, they were used to provide additional insight into the perspectives of each participant. Data collected from the four instruments were included as supplementary to the organized patterns and themes for each participant. The collective data was reviewed and guided the composite structural description style of contextual narrative relating to participant perceptions of the risk of developing social isolation.

Issues of Trustworthiness

The primary components of trustworthiness in qualitative data are confirmability, credibility, dependability, and transferability (Lincoln & Guba, 1985). Audit trails, member checks, peer debriefing, thick description, and triangulation are among the methods used to ensure that trustworthiness as a whole. A recent study examining the use of strategies to ensure trustworthiness of qualitative research indicated that among the

research papers analyzed, sampling procedure and triangulation were the most common methods of establishing trustworthiness (Barusch et al., 2011). This study employed an audit trail, member checks, purposeful sampling, referential accuracy, thick description, and triangulation to increase trustworthiness of the data collected and reported. Additionally, bracketing and reflexivity strategies were employed throughout the duration of the study to minimize researcher bias.

Confirmability

The goal of confirmability in qualitative research is to ensure that the interpretations of the data collected are reflective of the participant's perspective, not the researcher bias. Audit trails, reflexivity, and triangulation are among the methods recommended by Lincoln and Guba (1985) to establish confirmability. An audit trail is a method of documenting the steps taken to conduct a research project. Detailed records have been maintained relative to the research thus far and will be kept documenting all steps of the data collection and analysis. Reflexivity involves the researcher acknowledging his or her own beliefs and biases as well as their potential to influence the research process and outcomes (Lincoln & Guba, 1985). This is an ongoing process that facilitates the efficiency of bracketing. Although not mentioned by Lincoln and Guba (1985), bracketing is a useful method of ensuring confirmability. The active practice of listening to participant responses and probing for additional information aided in researcher awareness of participant perspective and decreased the influence of researcher bias (Chan et al., 2013). Triangulation involves the incorporation of additional methods

to verify the interpretation of data (Lincoln & Guba, 1985). Although, typically associated with credibility, member checking provides a means of verifying that the interpretation of the data is reflective of the participant's intended meaning and not researcher bias.

Credibility

Accurate and truthful representations of qualitative research findings are indicators of research credibility. Member checking, referential accuracy, and triangulation are methods of ensuring credibility. Lincoln and Guba (1985) indicated that member checking is vital to ensuring credibility of research. After the diaries and interviews were analyzed, each participant was contacted to verify the interpretations were reflective of the meanings attributed by the participant. Referential accuracy involves identifying data that will not be used in the initial data analysis and incorporating at a means of verification (Lincoln & Guba, 1985). The demographic survey, 6 item de Jong Gierveld Loneliness Scale, and the LSNS-6 were administered during the initial meeting but not reviewed or analyzed until after all other data had been analyzed and member checked (de Jong Gierveld & van Tilburg, 2006; Lubben, 1988). Although, initially intended to increase the description of participants, this additional information aided in the verification of the study results and was an additional data source for triangulation.

Dependability

The trustworthiness criterion dependability infers that the research will withstand the scrutiny of repeatability (Lincoln & Guba, 1985). This is to say that if a different researcher were to follow the research protocol employed with a similar sample of the population similar findings would emerge. During the course of a doctoral dissertation, a certain amount of external auditing is to be expected. However, it is not known if that will reach the level of objective evaluation associated with confirming the dependability of the data collection and analysis associated with this study. Therefore, an audit trail will serve to document the steps and findings associated with this research.

Transferability

Qualitative research findings that meet the criterion of transferability are those findings that are applicable to persons or populations beyond the research participants (Creswell, 2009). The use of thick description is associated with determining the transferability of research findings. As an exploration of the experiences and perceptions of older individuals at risk for social isolation, capturing the essence of each participant's point of view and conveying that to the reader is essential to the success of the research and dissemination of the findings. Participants were encouraged to provide responses that were rich in detail and nuances, affording the researcher and reader the ability to internalize and relate to participant experiences and perceptions.

Ethical Procedures

Research involving human participants necessitates the employment of various methods to ensure that risk to the participant is minimized and is outweighed by the potential benefit. The Belmont Report contains basic ethical considerations and practices relative to human research participants (U. S. Department of Health and Human Services, 1979). Part A of the Belmont Report identifies the boundaries between research and practice. As this researcher is not a clinician nor striving towards the role of a clinician the risk of blurring the boundaries between research and practice was minimal. Part B of the Belmont Report covers basic ethical principles: benefice, justice, and respect for persons (U. S. Department of Health and Human Services, 1979). The point of this doctoral research is to acquire information that will inform future actions focused on reducing social isolation among older individuals and by extension increasing their quality of life. Benefice, justice, and respect for persons are basal to the achieving the goals of this research.

Part C of the Belmont Report addresses specific steps that aid in ensuring that the ethical goals are achieved (U. S. Department of Health and Human Services, 1979). Information about the research and research methods, comprehension of the verbiage, and voluntary nature of the research are vital to the research participant's right to informed consent. The population of interest for this research is comprised of individuals who are at least 60 years of age and live alone. Individuals over the age of 60 are members of a vulnerable population and therefore additional considerations were

necessary relative to informed consent. For example, members of this population may have auditory and visual sensory losses (Nicholson, 2012), which can reduce comprehension. Sufficient time was allotted to ensure that large portions of the explanations given could be repeated, auditory and visual threats to comprehension were minimized, and understanding of the participant's rights, the research goals, and research methods were understood. The use of 14 pt. Times New Roman font (approximately 10% larger than this text) for the informed consent verbiage was used to reduce potential visual barriers to form content. Compensation has the potential to be coercive and compromise the voluntary nature of participation. Compensation for participation in this study was limited to a collection of local and national resources available to all potential participants regardless of inclusion status and a $10 gift card.

The identification of risks and benefits associated with a research project is essential to establishing ethical research (U. S. Department of Health and Human Services, 1979). Stigmas exist in relation to being socially isolated (Hand et al., 2014; Nicholson, 2012). The potential for participants to perceive inclusion in the study as increasing their risk of social-isolation-related stigma exists. To minimize this threat participation was confidential. Participant identities were protected via the use of an encrypted identifier that appeared on all documentation related to the participant except the signed consent form, the signed consent forms have been stored separate from other participant documents. The researcher is the only person with knowledge of the decryption key, and no tangible copy of the key exists. Hard copies of participant related

documents and research materials has been stored in a locked cabinet and digital records are stored on a secure removable storage device. All data will be stored for five years.

Selection of appropriate participants is vital to the success of this research and preservation of participant autonomy. As mentioned previously, older individuals constitute a vulnerable population. The potential for members of this population to suffer from cognitive impairments increases the potential risks. Although this researcher is not a trained diagnostician, only individuals who successfully live alone without the need for assistance were included to minimize the risk of participant vulnerability. Additionally, community stakeholders facilitating access to members of this population were informed of the desire to limit population referrals to individuals deemed self-sufficient relative to personal care. Despite taking steps to exclude potential participants that may be vulnerable due to cognitive losses, was possible that some potential participants might lack the cognitive skills to give informed consent. As such, the researcher paid close attention to potential signs that the participant was not capable of providing informed consent. Further, as all interviews will be audiotaped, review of the interviews supplemented the verification that all participants were treated with respect, were capable of giving consent, and did so voluntarily.

Institutional Review Board (IRB) approval to proceed with the research process increases researcher accountability and adherence to ethical principles. Prior to contacting community stakeholders and potential participants, all relevant documentation was submitted to and approved by the Walden University IRB # 03-04-16-0186696.

Completion of the IRB application increased this researcher's familiarity with ethical procedures and considerations that may have been overlooked. As a result, it is believed that all procedures, were employed in accordance with IRB guidelines.

Summary

This study incorporated six methods of data collection to explore the experiences and perceptions of older adults that live alone and are at risk for social isolation. A demographic survey, a social support profile, and two social isolation scales believed to be reliable and valid supplemented data collection via diary and interviews. A variety of strategies were employed to reduce researcher bias and increase trustworthiness of the results. Ethical protocols as defined by the Belmont Report and the Walden University's IRB were rigidly adhered to. Analysis of data was based on a merger of the Colaizzi and IPA methods of data analysis. Combining the two methods was intended to increase researcher fluency in the data and accuracy of participant voice. It is believed that following the steps outlined in this chapter led to a thorough exploration of the topic and rich descriptions of participant experiences and perceptions.

Chapter 4: Results

The primary goal of this study was to increase understanding of social isolation. Specifically, the researcher explored the experiences and perceptions of older adults at risk of social isolation. To that end four primary research questions were developed that focused on the emotions, experiences, perceptions, and thoughts of older adults who live alone and are at risk for social isolation. Collecting, analyzing, and interpreting interview data did not seem to provide adequate information to describe participants' experiences. Therefore, it was believed necessary to look deeper to seek consistency between self-reported instruments, behavior, and perspectives and to identify strategies employed by the most socially integrated participants.

An in-depth description of the data collection process, analysis process, and findings is provided in this chapter. Participants are identified by coded alpha numeric identifiers, and a primary goal of this chapter is to provide readers with an understanding of the perspectives held by each participant. Therefore, descriptions and characteristics that make each participant unique are incorporated into the various sections of this chapter.

Pilot Study

No traditional pilot study was employed. However, a mock interview was conducted with a 76-year-old man to gauge his responses to and understanding of the interview questions. In addition to identifying questions that prompted single-word responses, interviewer stumbling in relation to asking/reading some questions was noted.

As a result, several questions were rewritten to address the issue of interviewer recital of the questions and to increase interviewee understanding of and responses to the questions.

It was also important to determined that the number of instruments used in this study was not overly burdensome on the average participant. A female 67-year-old first generation Puerto Rican immigrant with a high school education was recruited to complete the entire battery of survey instruments. Although none of the instruments were burdensome (most could be completed in under a minute) and none of the interview questions were overly intrusive, the Social Support Profile Data Collection Tool was responded to with hostility. This led the researcher to conclude that better articulation and presentation of this instrument as well as the others was necessary to ensure participant comfort with data collection tools.

Research Setting

Initial meetings, formal interviews, and follow-up meetings were conducted at locations of the participant's choosing. Seven of the 10 interviews were conducted at the participant's residence with no one else in attendance, no interruptions, and a reasonable assumption that no environmental factors would adversely influence the data collection process. The risk of influence on participant responses and researcher interpretation was higher during the other three interviews.

The hearing-impaired adult son of Participant VTG-06-GHX was visiting from out of town and was present for the entire interview and review of the Social Support

Profile Collection Tool. It is possible that the presence of a hearing-impaired family member might have influenced this participant's responses. All participants received a copy of the interview questions during the first meeting. Participants also determined the location of the meeting and potential for others to hear their responses. Therefore, it was assumed that participant responsiveness did not suffer.

The initial meeting, formal interview, and follow-up meeting with Participant UK-15-QXE were conducted on her front porch, which is separated from a common walkway by a low wall. As a result, neighbors walking by would stop to chat during the interview, which may have influenced some of her responses. Additionally, the participant indicated that the porch was preferable to inside the home because one of her adult children and at least one grandchild was in the residence at the time of each meeting. The frequency of overnight visits by at least one of her children and grandchildren (minimum three to five nights a week) and that all apartments in this senior living community are two-bedroom indicated that she lives alone on a part-time basis because the full-time presence of these family members would be a violation of her lease. Researcher knowledge of this participant's reliance on housing subsidies and frequency of overnight familial guests may have influenced interpretation of the data collected. Additionally, this participant's living arrangements and level of familial interaction are not typical of the individuals residing in the senior apartment community where she resides. Further, the continued interruptions by friendly neighbors walking by and grandchildren banging on the porch window to get her attention may have influenced her

responses. Therefore, the analysis and interpretation of the data collected relative to this participant were reflective of the cumulative influences on the data collected.

The formal interview of Participant MLM-28-PLI was conducted at the community clubhouse associated with the apartment complex where she resides. This interview was the longest, taking more than 3 hours to complete and requiring two meeting times. Although these interviews were conducted behind a closed door in the community clubhouse, leasing staff did quietly enter the room a few times during each of the two meetings. No interaction occurred with the leasing staff during the interview sessions, and it is unlikely that this participant was influenced by the brief periods (1 minute or less) when a staff member was present. The time between the first and second interview potentially influenced this participant's responses; however, review of the transcripts indicated no change in depth or tone of the responses.

Demographics

Ten participants were included in this study. Seven of the participants were on fixed incomes and of low socioeconomic standing. Demographics of the two male and eight female participants in this research were diverse. Although both men had lived alone for more than 20 years one was of African American descent, the other was Caucasian. Both men had one daughter, and both were estranged from their only child, which is the extent of their similarities. Participant FJL-55-DRT was a 60-year-old veteran, had some college, had never been married, and was disabled with numerous health and mobility issues. In contrast, Participant UIR-15-QXE was a 78-year-old retired

public servant, had been married more than once, had a high school education, and suffered severe age-related hearing loss.

One African American, six Caucasian, and one Mixed Race women ranging from 60 to 84 years of age were included in the study. Three women had obtained their high school diplomas, four had obtained an associate's degree or had some college, and one had obtained a bachelor's degree. Four of the women were retired, three were disabled, and one was employed full time. Each of the women had a minimum of two children, two women were estranged from one of their children, one was formerly estranged from a child, and one had a child who had passed away. All women except one had been married at least once. Unlike the men in the study, socioeconomic status was not directly related to employment history or disabled vs retired status. Duration of former marriage, former spouse's socioeconomic standing, and living/deceased status of the former spouse were the major factors influencing financial security among the women in the study.

Data Collection

Each participant was asked to provide responses to six data collection instruments during two separate meetings and to meet with the researcher a third time to ensure interpretation accuracy. During the first meeting, each participant was asked to complete three self-report instruments: a selection of questions taken from the American Community Survey (the Demographic Survey), the Abbreviated Lubben Social Network Scale (LSNS-6), and the 6-item de Jong Gierveld Loneliness Scale. No individual self-report measure took any participant longer than 1 minute to complete. However, the issue

of race did arouse questions relative to how an individual should respond if he or she self-identified as mixed race. In this case the participant was directed to indicate all races that contributed his or her ancestry. Another individual indicated a desire to write in "human" race. An explanation of socialization differences between racial cultures was given, and Platt's (2009) investigation of ethnic differences of socialization in the United Kingdom was provided as an example that seemed to put the participant as ease relative to accurate indication of race. The completed self-report measures were placed in a sealed envelope and were not reviewed until all interviews were transcribed. As a result, it was unknown to the research until after the interview that Participant VTG-06-GHX had marked "strongly disagree" for all six questions of the 6-item de Jong Gierveld Loneliness Scale, essentially voiding any potential descriptive benefit of this instrument relative to the participant. Approaching the participant and requesting that the instrument be completed correctly was considered; however, it was determined that doing so might cause the participant the harm of embarrassment.

At the close of the first meeting, participants were provided extensive guidance on completion of the Social Network Profile Data Collection (SNPDC) tool that was left with them along with the 2-week diary and a copy of the questions that would be asked during the formal interview. All participants completed a minimum of 13 days within their diaries. Participants FJL-55DRT, MUL-08-IHY, and PJI-08-RJG contacted the researcher within a few days to ensure that they were providing the depth of entry desired. None of the participants expressed any form of distress relative to completing the

SNPDC or their diaries. Although no participants expressed confusion, the SNPDC may have been confusing for most participants because only one added data while not in the presence of the researcher. All other participants required additional assistance during the second meeting to finish completing the instrument.

All interviews were recorded using two digital recorders to ensure each interview was completely recorded to minimize the potential of data loss due to technical failure. Eight of the formal interviews were conducted inside the participant's home and lasted between 20 and 75 minutes. The interview with Participant UKL-15-QXE was conducted on the front porch of her apartment. Distractions during the interview included the occasional neighbor stopping to say hello during the interview and the participant's granddaughter attempting to get her attention by banging on the window. The participant had suggested that her porch would minimize distractions by her granddaughter and maximize the assurance of her privacy and confidentiality relative to her responses to the interview questions. Therefore, it is believed that these distractions did not detract from the participant's comfort or openness relative to her responses. Participant MLM-28-PLI suggested that the resident clubhouse would provide a more comfortable location to conduct the interview than her residence. This interview was approximately three hours long and spanned across two meetings one week apart.

Following transcription of the interviews participants were contacted either in person or via telephone to ensure that no responses were misunderstood. Additionally, as the researcher personally knows a few individuals (excluded from inclusion due to

personal relationships with the researcher) that reside in the apartment community where many of the participants reside, the researcher had the opportunity to casually observe many of the participants and their interactions with neighbors.

Data Analysis

Elements from the Colaizzi method (Shosha, 2010) and interpretive phenomenological analysis (Larkin & Thompson, 2012) were merged to define the interview analysis protocol. Each interview was transcribed using a combination of "talk to text" software applications and then checked for accuracy. Audio recordings of the interviews and the transcribed representations were reviewed multiple times to obtain a general sense of the participants collectively and as individuals. Scrutinized review was then conducted to identify recurrent themes and salient participant statements. This was followed by review of the audio recordings with the sole intent of finding statements that addressed the research questions. Responses relevant to the research questions were highlighted and compared to identify recurring themes among them.

Analysis of the daily journals was similar to that of the interviews. Each journal was initially read to get a feel for the participant's daily life. After all journals had been read each was reviewed again for patterns of behavior and significant statements. Journals were then reviewed for alignment with the prior research related to behavioral and physiological manifestations of social isolation (Cacioppo & Cacioppo, 2015; Cacioppo et al., 2011; Holt-Lunstad et al., 2015; Nicholson, 2012). Data from the Social Support Profile Data Collection Tool (SSPDCT) was input into the Social Support Profile

graphic and examined for clusters of socialization individually and collectively. One participant that stood out as very lonely and lacking friends had indicated many daily socialization options on the SSPDCT which was a contradiction of the information revealed in the interview and daily journal. As a result, each participant's total weekly friend and family social options indicated on the SSPDCT was compared to the friend and family social interactions recorded in the two-week daily journal. It was noted that the loneliest participants over estimated their social contacts when compared to their actual social interactions recorded during a two-week period.

Participants were contacted to ensure that the interpretation of the of their statements during the interviews and in the daily journals was accurate. Participants were also asked how they were doing; disclosed changes were noted. The demographic survey, 6-item DJGLS, and LSNS-6 were then reviewed and scored according to the published instructions (de Jong Gierveld & Tilburg, 2011; Lubben et al., 2006). Summary sheets of each participant indicating their demographics, perception of health, number of children, scores on the 6-item DJGLS, LSNS-6, daily and weekly socialization options, reported sleep patterns, answers to the specific research questions, and a general summary of salient information provided during the meetings were made for ease of data review. This information was then put into a data grid for visual identification of existing patterns. A condensed version is included as Table 1. Noted patterns were reviewed, double checked for identification accuracy, evaluated for consistency with the literature, and evidence of alignment with the nested systems.

Table 1

Participant Demographics and Interactions

Participant	Sex	Age	Years alone	Employment status	6-item DJGLS	LSNS-6	Weekly social options claimed friend / family	2-Week actual interactions reported
FJL-55-DRT	**M**	**60**	**21**	**Disabled**	**4**	**19**	**6**	**2**
GJL-22-MRN	**F**	**62**	**2**	**Employed**	**2**	**14**	**3**	**2**
MLM-28-PLI	F	60	<1	Disabled	3	15	14	16
MUL-08-IHY	F	83	40-50	Retired	0	23	2	3
ODM-01-MRO	F	84	10	Retired	0	20	6	5
PJL-08-RJG	**F**	**60**	**28**	**Disabled**	**6**	**11**	**1**	**1**
UIR-04-DRT	**M**	**78**	**32**	**Retired**	**0**	**9**	**0**	**0**
UKL-15-QXE	F	64	10	Disabled	0	19	12	10
UZH-29-RJG	F	76	<1	Retired	1	24	10	9
VTG-06-GHX	F	82	30	Retired / Volunteer	Void	21	10	2

Note. The 6-item DJGLS and LSNS-6 were scored in accordance with the published instructions (de Jong Gierveld & Tilburg, 2011; Lubben et al., 2006). Weekly Social Options Claimed Friend / Family entries are the values identified by each participant in the Social Support Profile Data Collection Tool. The 2-Week Actual Interactions Reported values are based on the actual number of friends and family members whom interactions occurred as recorded in the 2-week diaries. Participant VTG-06-GHX marked all six items on the DJGLS the same. Participants with scores indicating a high risk of social isolation or that self-identified as socially isolated are shown in bold type.

At the time of inclusion in the study, all participants lived alone, a known risk factor for developing social isolation. As a multilevel phenomenon with a wide range of personal aspects and circumstances that increase an individual's risk of social isolation as well as the potential manifestations arising from the phenomenon, it was reasonable to expect that the risk factor-experience-manifestation combinations would vary from one individual to another. In fact, an extensive review of the literature produced no specific causal path between risk factor and manifestation. Therefore, the risk of discovering a discrepant case was minimal. Data collected from participants that had multiple risk

factors, yet no signs of social isolation was reviewed extensively, not to determine why they did not align with the prior research but to identify indications as to why they were successful at overcoming their risk.

Evidence of Trustworthiness

Confirmability

Audit trails, bracketing, reflexivity, and triangulation were used to ensure confirmability of the interpretation of the data collected. Consistent with the creation of an audit trail, extensive records were kept relative to participant recruitment, data collection, and data interpretation. The continued awareness and acknowledgement of researcher bias and beliefs associated with reflexivity was necessary to minimize their potential influence on the interpretation of participant responses. Open-ended interview questions and diary prompts enabled participants to respond as briefly or as in-depth as desired but also offered the researcher the opportunity to ask for added clarification and/or information relative to the questions asked and the associated responses. As indicated by Chan et al., (2013) active listening and probing (bracketing) reduces the influence of researcher bias on the interpretation of participant responses. Triangulation for the purpose of confirmability was achieved through member checking and additional self-report instruments. Member checking ensured that participant perceptions were accurately captured; consistency with the self-report instruments strengthened the belief that participant perceptions were accurately captured and portrayed. By using these

methods collectively, the influence of researcher bias was reduced and a truer reflection of participant perspective was achieved.

Credibility

Consistent with the criteria indicated by Lincoln and Guba (1983), to ensure the credibility of qualitative research member checking, referential accuracy, and triangulation were employed. Of the ten participants, nine were available for follow-up communication and verification of data interpretation. Additional clarity relative to discrepancies in stated marital statuses (indicating as single, when in fact divorced), circumstances surrounding estrangement from a child, and changes or continuation of quality of life factors since the time of interview. Referential accuracy was achieved through the comparison of the five self-report instruments (three of which were unseen until after the interviews had been transcribed and analyzed) and the descriptions provided in the interviews. Themes that emerged from the diaries and interviews were evaluated for consistency with the scores from the 6-item DJGLS (de Jong Gierveld & Tilburg, 2000), LSNS-6 (Lubben, 1988) and the Social Profile Data Collection tool. Triangulation was achieved by identifying consistency of individual and collective participant data and alignment with the pre-existing research discussed in Chapter two.

Dependability

It is conceivable that a different researcher might have identified different themes and salient statements, potentially threatening the dependability of the research findings. However, participant demographics, social networks, and scores associated with the 6-

item DJGLS (de Jong Gierveld & Tilburg, 2000) and LSNS-6 (Lubben, 1988) are not subjective or influenced by researcher bias. Additionally, all data collection and analysis were documented to form an audit trail. Therefore, it is believed that a solid foundation for dependability was formed and that repeatability of participant perceptions was achieved.

Transferability

Establishment of transferability requires that the interpretations generated from the data collected apply to individuals similar to the research participants. An exhaustive review of prior research suggests that some risks and manifestations of social isolation are relevant to some individuals but not to others (Cacioppo et al., 2013; Choi eta al., 2012; Platt, 2009). This, individualization of the perception of social isolation was evident within this research and may be the result of a multitude of factors. Nevertheless, some of the participant perspectives stood out as salient regardless of participant differences while others seemed to be consistent among participants of similar socioeconomic status or other commonalities. Although representations of loneliness such as “I just want a friend. You know? Someone to talk to” (Participant FJL-55-DRT) might be a common statement that could have been said by most any lonely person, it is the decreased access to a diminishing participant pool that makes this type of common statement so reflective of the involuntary nature of social isolation among older persons that live alone. The desire for companionship either expressed through statements of

loneliness or through actions aimed at maintaining social integration were echoed throughout this participant sample and are reflected in society.

Study Results

Thoughts on Living Alone

All participants of this study lived alone at the time of their participation. Although nine of the ten participants expressed that they liked the freedom and independence of living alone, for some it did not happen by choice. Participant MLM-28-PLI was a 60-year-old mixed race woman that at the time of participation had been living alone for less than one year. “I like living alone and doing creative activities” she responded when asked how she felt about living alone. More than 30 miles from her closest family member and without personal transportation she moved to her current residence after being evicted by her own mother because she filed criminal charges against her niece and nephew (also residents of her mother’s home) after they beat her up and stole her money.

A mother of six children but estranged from one, Participant UZH-29-RUG had been living with her sister until a few months prior to her inclusion in the study. Unfortunately, frequent trips to the local Indian Casino resulted in financial issues for them both, forcing both to move out of easy range of gambling establishments; her sister back to the Midwest and her closer to her children and their supervision. Currently residing in an age restricted apartment complex, she had not formed any local friendships at the time of her participation. “I like living alone but I do get lonely” she responded

when asked about living alone. Her front door open, she points to a closed door across the courtyard from her and says “I don’t think anyone lives there. The newspapers pile up and then they are gone but I never see the door open or any other movement there. It makes me worry that when I die no one will know until the neighbors complain about the smell”.

In contrast to the other participants, Participant FJL-55-DRT stated, “I don’t like living alone”. A 60-year-old disabled African American that has lived alone for 21 years, he recently moved to the area he now lives to escape the high crime environment of his former residence which was much closer to his family members. Prevented from driving or getting to the closest bus stop by his physical limitations he is reliant on others for any activity requiring transportation. “My brother doesn’t live that far, he could come and pick me up but he doesn’t have time for me” he says when speaking of his family. He continues, “I only hear from them on payday”.

As indicated, nine of the ten participants indicated that they like living alone. Despite this, six of those participants reported periods of loneliness. Over estimating access to meaningful relationships was the most common method of coping with potential loneliness associated with living alone. However, the most unusual was exhibited by Participant ODM-01-MRO. “I just miss them so much”. Initially, perceived as relating to her departed parents, siblings, and spouse, she was referring to relatives long dead prior to her birth. Most days spent tracing her ancestral roots, she has formed relationships with ancestors she has never met.

Factors That Result in Social Isolation

Finances, lack of access to transportation, and mobility issues were the most common responses included when participants were asked what things they believed led to social isolation. Although reflective of personal circumstances other responses were far more individualized, offering insight into the thoughts of the participants. For example, Participant UIR-04-DRT a 78-year-old retired white male that has been estranged from his only daughter since she was 15 years old and has no relationship with any other family members, identified his age-related hearing loss as a barrier to social interaction. Other physical conditions not related to age such as chronic illnesses and disability were also indicated by some of the participants.

As an 84-year-old widow that has lived alone since the death of her husband, Participant ODM-01-MRO indicated that when her husband died she lost his companionship and all the friendships they had formed as a couple. “We always did things with my husband’s friends and their wives. When he died, those friendships also died” she said. Poor self-image and work schedule were the primary barriers to social integration experienced by Participant GJL-22-MRN a 62-year-old divorced white woman who said, “there have been times when I didn’t accept an invitation because I was worried that I didn’t have the right clothing”. Participant UKL-15-QXE said “People think that after a certain age you no longer matter”. Despite being the only participant to indicate age as a barrier to social integration all the participants except ODM-01-MRO

expressed at least one incident that they perceived their age as the basis for some form of negative treatment by others.

Factors That Prevent Social Isolation

Access to reliable transportation (*n*=6) and financial freedom (*n*=9) were often cited by participants as circumstances that would decrease their personal risk of social isolation. When asked if they were aware of the publicly funded transportation programs available to older adults and disabled individuals most had no prior knowledge of what was available in their community. Most participants indicated that greater financial security would increase their ability to engage in social activities. Having substantial financial means and the only participant to have obtained a bachelor's degree, Participant ODM-01-MRO said, "my financial advisor told me to stop treating people to cruises", advise that eliminated her access to travel companions. As a result, she felt that access to peers of similar financial means and interests would lessen her personal risk of social isolation.

Access to companionship was cited by all three very lonely participants as a means of preventing social isolation. Participant GJL-22-MRN indicated that "a part-time relationship" with a member of the opposite sex would reduce her sense of social isolation. Participant FJL-55-DRT and Participant PJL-08-RJG expressed a greater sense of loneliness and both said "I don't need sex. I just need someone to talk to". Good health was also indicated by Participant PJL-08-RJO as a circumstance that would reduce her risk of social isolation. However, this participant also indicated that she has always been

somewhat antisocial stating “I’ve never been in a relationship. I’ve only had one-night stands” and “I don’t know how to communicate very well”. As such, good health might not facilitate social isolation prevention in her case.

On the topic of factors that prevent social isolation Participant MUL-08-IHY presented as a discrepant case. An 83-year-old divorced woman that had lived in the same rural town since early childhood and has lived alone for between 40 – 50 years, she indicated that social isolation is a personal choice. “If a person is lonely they should call a family member or friend and go out and do something”. Her perspective is interesting because although she does not consider herself to be objectively or subjectively isolated, she overestimated her frequency of interactions with family and friends. Specifically, she indicated that she interacts with 8 family members and friends between one to seven times per week but recorded only three interactions with a family member or friend in her two-week daily diary. Nevertheless, her scores on the 6-item DJGLS (de Jong Gierveld & van Tilburg, 2006) and the LSNS-6 (Lubben, 1988) were consistent with individuals who are not at risk for objective or subjective social isolation.

Factors That Promote Social Integration

Most participants indicated that the existence of and/or access to planned activities would be a viable way to promote social integration among older adults. Participant ODM-01-MRO indicated that congregate lunch programs are an effective way to promote social integration but that the program in her city had been cancelled due to funding issues. Consistent with the transportation difficulties that most participants cited

as prohibitive to social involvement, the closest lunch program to Participant ODM-01-MRO was in a neighboring city more than 20 minutes away by car and not easily reached by public transportation. Participant UZH-29-RUG said "well, you need to have the desire to go out and meet people" shedding light on the potential role of motivation and/or insecurity relative to new social activities.

Ecological Systems Theory

Participant perspectives can be categorized according to the system divisions associated with Bronfenbrenner's (1979) ecological systems theory. Although, not one of the identified systems, the individual and his/her characteristics such as age, health, and sex are at the center of these nested systems. Overall health, and specifically limitations resulting from chronic health issues and disability were among the issues that formed barriers to social integration for numerous participants.

Microsystem. Seven participants described close relationships with their children and extended family and expressed a desire for more contact if the interactions were less than once per week. However, four participants were estranged from one of their children and another participant had been estranged from a child until a year prior to participation in this study. Participant UZH-29-RUG a mother of six that has a good relationship with five of her children said, "One of my daughters hasn't spoken to me in more than two years and no one will tell me why not". Participant UIR-04-DRT stated that his relationship with his family is nonexistent. He hears from a niece every year or two and said, "I haven't seen my daughter since she was 15 years old". No additional explanation

was offered, and he did not seem interested in expounding on the statement. Participant PJL-08-RJG moved to her current residence for the sole purpose of being close to her eldest son and his children. “I live less than five miles from him and I have seen him twice in two years. He doesn’t call and we don’t spend the holidays together” she said when discussing her familial relationships.

Religious affiliations were mentioned as an important part of their lives by four of the participants during the interviews and in their daily journals. Participants UKL-15-QXE and VTG-06-GHX attended bible study at least one time per week plus Sunday services. During the interview Participant MUL-08—IHY brought out photos of her daughter and grandsons on their various religious quests abroad and proudly shared that her son is a minister. Participant PJL-08-RJG engaged in solo study and daily bible study via telephone. As Participant VTG-06-GHX put it “I am never alone because God is always with me”. During the member checking sessions Participants FJL-55-DRT and GJL-22-MRN shared that each had added bible study and weekly services to their normal routines.

Although the prevalence of estrangement between parent and child is unknown to this researcher, the revelation that four of the participants were estranged from at least one child and Participant UKl-15-QXE had previously been estranged from a child was unexpected. Collectively, frequency of interactions and quality of relationships within the microsystem were important relative to participant experience and perception of personal social isolation. In fact, having interactions with a minimum of five friends and family

members per week, even if that interaction was on the telephone, was associated with the greatest sense of life satisfaction.

Mesosystem. Participant FJL-55-DRT was the only participant to mention social integration barriers that align with the mesosystem. This participant had recently moved to his current residence and was no longer just a few minutes away from friends and family. “I want to move. There is nothing here for me. I have no friends” he said.

Exosystem. Eight of the ten participants in this study were on fixed incomes, many well below the poverty line. The issue of access to transportation was brought up by most of the participants. Two low SES participants that owned cars lacked the financial means to make necessary repairs so that they could be driven. As stated by Participant MLM-28-PLI,” I just spent $300 on car repairs and I still can’t drive my car”. Shopping for groceries posed an additional challenge for participants that lacked transportation as many were reliant on others to take them shopping or only purchased quantities that they could transport in a cart.

Neighbors were an important socialization option for many of the participants. Although she has daily and weekly access to a large number of family and friends, the daily journal entries of Participant MLM-28-PLI frequently indicated walking around her apartment complex and chatting with multiple neighbors. For Participant UIR-04-DRT neighbors are the primary source of social interaction. For many, neighbors serve as a source of social support and a way to feel needed as demonstrated by PJL-08-RJG who made daily entries indicating that she had checked on the well-being of a neighbor.

Participant perception of available community and government programs to assist the elderly and disabled were reflective of personal need. Participant MUL-08-IHY said "I have never needed the programs, but I know there are plenty available to those who need them". In contrast Participant FJL-55-DRT said, "the government should provide the elderly and disabled an equal or greater number of benefits to what is given to children". Perception relating to the availability of assistive programs was reflective of level of need. Individuals most in need of assistive programs were unaware or underserved by assistive programs, those with the least amount of need believed that sufficient programs exist even if their belief was unsubstantiated.

Macrosystem. "People think old people are useless" said Participant UZH-29-RUG. Six of the participants had experienced some form of negative treatment they felt was motivated by their age. In fact, Participant VTG-06-GHX who was one of the most socially integrated participants said, "society has a negative attitude towards older individuals", and most of the participants said something similar.

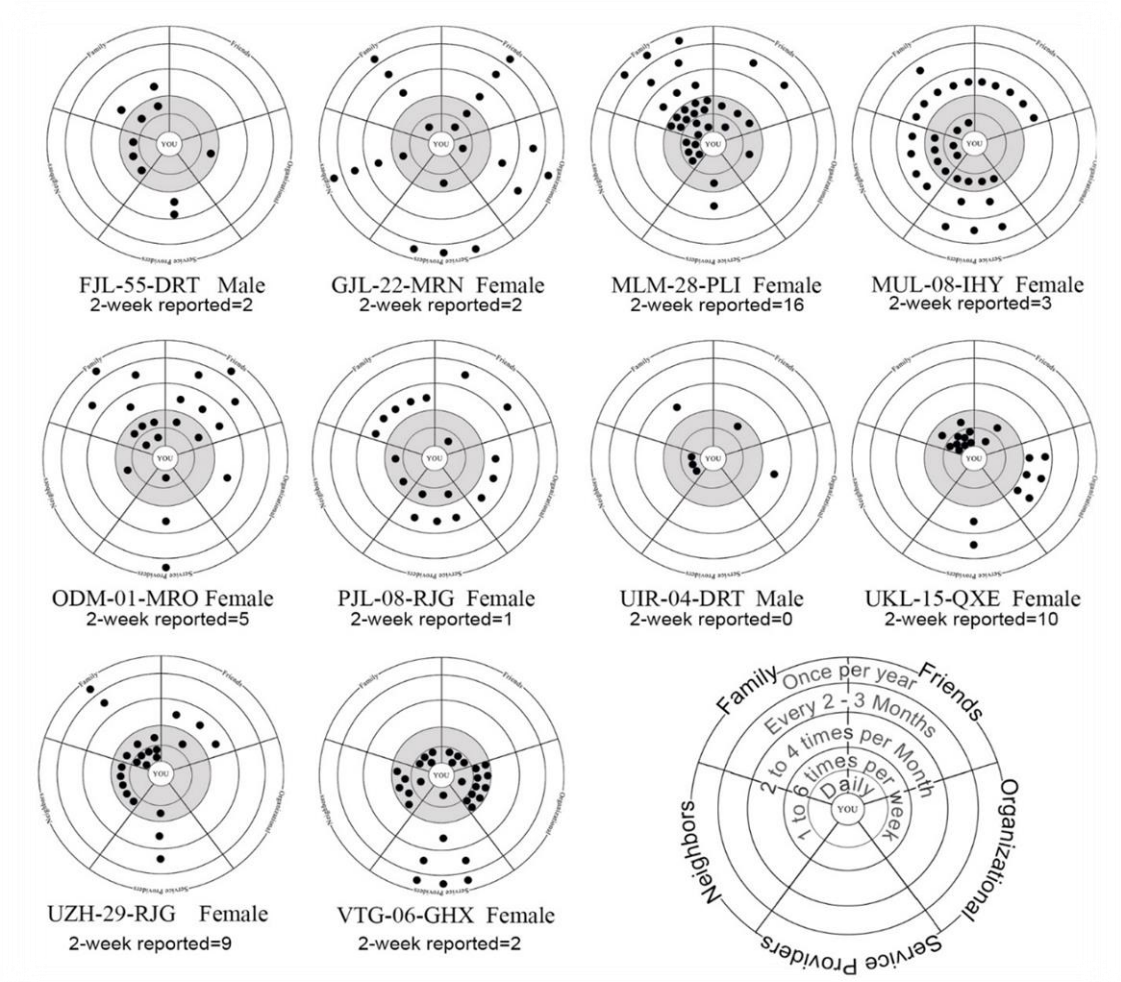

Figure 1 Participant Social Support Maps based on frequency of social interaction data provided by participants in their self-reported social support profiles. The actual number of social interactions recorded in the 2-week diaries are indicated below each participant's social support map. In many cases the total 2-week actual interactions were less than the participant's estimation of number of contacts and interaction frequency. Adapted from the Five Field Map (Samuelsson, Thernlund, & Ringstrom, 1996).

Sleep Patterns

Participant sleep quality was recorded in their daily journals for comparison to their prior day activities and levels of social isolation. Participant VTG-06-GHX had the best sleep with eleven nights that were either good or great and no poor or fragmented.

Participant MUL-08-IHY had eleven nights of good sleep but also had two nights that were poor. The remaining participants had combinations of sleep qualities ranging from poor to great. The most socially isolated individuals had the greatest number nights indicated as poor or fragmented. Consistent across the participants was evidence of lower sleep quality in relation to unpleasant activities or those that highlighted painful memories and higher quality sleep in relation to pleasant activities.

Findings After Conclusion of Research

Despite this research not being action research, it was hoped that participants might be inspired to make lifestyle changes that promoted increased social isolation. As mentioned earlier two participants had added formal religious practices to their weekly routines. Participants FJL-55-DRT and PJL-08-RJG contacted the researcher after the data collection and analysis had concluded to provide an update on their status. Participant FJL-55-DRT had contacted his local social services office and was able to request that his niece (a nursing student), be retained as his home health worker. He reported that multiple weekly visits by his niece and his involvement in the parish he joined have made his life much fuller. However, he still wants to move. Most striking was the decision of Participant PJL-08-RJG to get a roommate. Although her discussion of the roommate lacked enthusiasm she acknowledged that quality of life increases she had already realized.

Summary

Six methods of data collection were used to address the four primary research questions and capture the perceptions of ten participants. Data collected via the two-week daily diaries and interviews served as the main source of data in response to the research questions. The four added self-report instruments were included to enrich participant description, increase understanding of participant perspective, and determine if patterns or relationships were suggested for further investigation.

Despite the demographic diversity of the participants there were commonalities. All participants were aged 60 years or older and lived alone. Seven of the participants were of low economic standing. Both male participants were estranged from their only children and two of the female participants were estranged from one of the children. Most responses to the research questions were reflective of individual circumstance and perspective.

Research question one asked about the emotions and perspectives relating to living alone. Nine of the ten participants enjoyed living alone. The freedom to do as one pleased when one pleased was expressed by most participants in relation to their living situation.

Research question two explored what circumstances participants felt were associated with becoming socially isolated. Most participants indicated finances, lack of access to transportation, and mobility as the main causes of social isolation. Age-related hearing loss, self-image and societal attitudes towards the elderly were also mentioned.

Responses to research question three which asked about factors that prevented social isolation aligned with the responses to research question two. Access to transportation and better health/mobility were common responses. However, more money was the most common response.

Research question four asked about promoting social integration. Most participants believed community-based planned activities and access to those activities would be an effective means of promoting social integration. One participant suggested a system of regular telephone calls to individuals at risk for or experiencing social isolation.

Chapter 5: Discussion, Conclusions, and Recommendations

This interpretive phenomenological study was conducted to increase understanding of social isolation and the related perceptions of older adults at increased risk for becoming socially isolated. Secondary goals of this study were identification of circumstances that lead to social isolation among older adults, preventative methods, and remedies. Although this study cannot be classified as action research, the opportunity for participants to reflect on their social support networks and daily activities was desired. Although the researcher could not conclude that participation in this study was influential in the lives of the participants, three participants reported making positive changes that increased their socialization following their participation.

Key findings in relation to the research questions involved access to social activities. Lack of access to transportation to and from activities was seen as contributory to the development of social isolation and as a barrier to prevention. The existence of and access to planned activities was reported as a means to promote social integration. However, awareness of those activities is essential to the possibility of access. Many participants did not have Internet access or own computers. Therefore, although there may have been opportunities for socialization, those with the greatest need might not have had access to that information.

Interpretation of Findings

Participants in this research study were older Americans who lived alone at the time of their participation. Nicholson (2012) identified aging and living alone as variables

that increase an individual's risk for developing social isolation. These two variables were used to characterize the participants in this study as at risk for developing social isolation. Consistent with Nicholson's (2009) estimate that as many as 35% of older Americans are socially isolated, two participants were at increased risk of subjective social isolation based on the 6-item DJGLS, and two different participants were at increased risk of objective social isolation based on their responses to the LSNS-6.

What appeared to be a disconnect between the participants' statements and their scores led to closer examination of the number of interactions participants had with individuals of various roles within their social networks. It was determined that more than half of the participants interacted fewer than six times with friends or family members during a 2-week period. For example, Participant FJL-55-DRT, a disabled African American man, decreased his access to family members, community resources, and transportation when he moved to escape the high crime environment of his former residence. Each of the circumstances he experienced is a known risk factor for developing social isolation (Nicholson, 2013). A review of all data collected on this participant suggested other points of interest. He was an admittedly lonely individual with few social contacts who overrepresented his access to family and friends on the LSNS-6 and on the Social Support Profile Data Collection tool. It was unclear whether this was the result of social desirability bias, a fear of the stigma discussed by Hand et al. (2014), or other factors.

Many of the participants had multiple risk factors for developing social isolation, such as low socioeconomic status, multiple chronic health problems, or lack of transportation (Dickens et al., 2011; Ibrahim et al., 2013; Nicholson, 2012). Participant PJL-08-RJG and Participant MLM-28-PLI were 60-year-old women who demonstrated evidence of these risk factors and indicated no knowledge of how to alter their situation. Both women owned vehicles but lacked the funds to make repairs necessary to solve their transportation issues, and physical ailments prohibited their travel to local bus stops. Despite the numerous similarities in their situations, their perceptions of their situations were vastly different. The reason for this might be related to research conducted by Cacioppo et al. (2013) indicating that allele variation in the serotonin transporter gene is associated with individual response to negative or positive stimuli. Specifically, individuals with the short serotonin allele are receptive to negative stimuli and individuals with a long serotonin allele are receptive to positive stimuli.

Manifestations such as increased health-related ailments were considered when examining data in this study. Participant ODM-01-MRO was very healthy in most respects but had experienced transient laryngitis of unknown origin for more than 5 years. Mick et al. (2014) discussed the role of communication deficits as increasing an individual's risk for social isolation. However, this participant's transient laryngitis began after the loss of her husband and more recent loss of access to social activities with friends. Therefore, the communication hindrance experienced by Participant ODM-01-MRO may have been a manifestation that also served as an added risk factor. Another

manifestation, sleep fragmentation, was frequently documented in the daily journals of the loneliest participants (Cacioppo, Cacioppo, Cole, et al., 2015). Other participants documented sleep disturbances following unpleasant activities and activities that brought painful memories to the surface.

Consistent with the documented behavioral manifestations (Cacioppo et al., 2011; Nicholson, 2012), two of the participants reported daily consumption of alcohol. A decrease in prosocial behavior (DeWall et al., 2011) was demonstrated by three of the participants in reference to offering aid to their neighbors or more specifically a belief that their neighbors wanted to take from them but were not interested in reciprocation. It is possible that this type of decreased prosocial behavior aligned with the self-protective responses associated with social baseline theory (Beckes & Coan, 2011). A heightened sense of surroundings was expressed by Participant UKL-15-QXE since she first started living alone 10 years ago despite the frequency of overnight visits by family members.

The question arises as to why an individual with few risk factors self-identifies as objectively and subjectively socially isolated, as Participant GJL-22-MRN did. Prior research suggested a heritability effect relative to the experience of social isolation (Cacioppo et al., 2014; Cacioppo et al, 2013). Therefore, it is possible that this participant has a genetic predisposition to perceive herself as socially isolated.

The researcher also wondered why some individuals with multiple risk factors or few social contacts lacked a sense of subjective social isolation or believed themselves to be socially integrated. Participant UIR-04-DRT is hearing impaired, has one friend, and

has no familial ties, yet he is not lonely and is very happy in his life. A closer examination of his habits indicated that his social needs may be met in other ways. During the 2-week period that he completed his daily journal, Participant UIR-04-DRT reported daily walks to the manager's office (sometimes multiple times a day) to pick up his mail or take out his trash. Along the way, he would exchange greetings with neighbors. Consistent with Gardener's (2011) investigation into naturally occurring social spaces, the walkway this participant traveled daily likely serves as an opportunity for social encounters. What makes this participant's use of transition zones for social interaction so interesting is the degree of his hearing impairment. During the initial meeting with this participant, it was noted that his hearing loss was severe enough that he was unaware of the responses neighbors gave him when he said hello and asked how they were. Instead, he responded to the response he expected, not what was said.

The use of transition zones as opportunities for social isolation was also observed in Participant MUL-08-IHY. This 84-year-old, divorced, Caucasian woman with a lifetime of low socioeconomic status and infrequent interactions with family members or friends claimed to be completely happy in her life. Although frequently referencing her Christian beliefs and the religious affiliations of her family members, she made no mention of affiliation with a particular local parish or visits to a house of worship. Therefore, it was unclear whether the benefits of religious affiliation discussed by Platt (2009) were of benefit to this participant. What stood out were her almost daily trips to shopping establishments and her frequency of visits to a local drug store. The path

traveled to the local drug store and bus stop as well as riding the bus may provide this participant with the important transition zone social opportunities (see Webster et al., 2013).

Participant VTG-06-GHX exemplified the role of religious affiliation relative to preventing social isolation and promoting social integration. Platt (2009) discussed religious affiliation as an opportunity to expand an individual's opportunity for social integration beyond the immediate and extended family unit. Although retired, the weekly calendar of Participant VTG-06-GHX was very full. Weekly bible study sessions and church attendance were supplemented with volunteering 2 days per week at a church-sponsored secondhand store. It is possible that, as Platt (2009) discussed, religious affiliation keeps her life full of activity and social opportunities. It is also possible that time spent volunteering makes her feel useful, which is contrary to the societal perception that older individuals are useless (as expressed by many of the participants). However, her depth of faith and belief that she is never alone could not be ignored. If, as indicated in the literature, the perception (real or imagined) of social isolation can increase an individual's risk of social isolation, it is also possible that a belief that one is socially integrated insulates a person from the risk for developing social isolation (Cornwell, & Waite, 2009).

Limitations of the Study

Several methods were employed to ensure the trustworthiness of the collection, analysis, and interpretation of data. Nevertheless, limitations existed such as bias,

population accessibility, and transferability. Each of these limitations are discussed below.

Bias

The potential for researcher bias such as confirmation and cultural biases was minimized through the use of bracketing and reflexivity strategies. However, managing researcher bias does not negate the effect of respondent biases. It was suspected that social desirability bias was demonstrated by some participants in response to the size of their social networks. Although this was addressed by checking their suggested social contacts against their actual contacts during a 2-week period, there was no guarantee that either was completely accurate. It is possible that if the data were collected anonymously, a different and perhaps more accurate representation of some participants' social networks would have been obtained.

Population Accessibility

Participants in this study might represent the most social and accessible members of the population of older individuals who live alone and are at risk for social isolation. Individuals at greatest risk for social isolation might not have had access to information about the opportunity to participate in this research or might have determined that they did not want to participate. There are many reasons that members of this population might choose to opt out of participating. In fact, as mentioned earlier, discomfort with being recorded on audio tape and failing health were among the reasons that three potential participants chose not to participate.

Sample Size

Ten individuals participated in this research, and although this is acceptable for phenomenological research (Creswell, 1998), it is possible that a larger sample might have found different perspectives and themes to be more salient than the ones discussed in this research.

Transferability

Prior research has shown cultural differences in socialization patterns and susceptibility to social isolation (Lelkes, 2013; Platt, 2009). Therefore, some findings of this research might not be generalizable to individuals similar to the participants but residing elsewhere. However, the prior research also indicates that the combination of risk factors that lead to one individual becoming socially isolated may be different than the combination of risk factors that result in another becoming socially isolated (Cacioppo et al., 2013; Choi eta al., 2012; Platt, 2009). As such, the experiences and perspectives explored in this study might best serve to inspire further investigation.

Recommendations

All of the participants in this study had ideas related to the causes of social isolation, methods of alleviating and preventing social isolation, and promoting social integration among members of their cohort. For example, most of the participants of this research identified lack transportation as promoting social isolation and as a barrier to social integration. The reason why the individual lacked transportation was made clear by some participants but not others. Large scale quantitative research could be used to

determine if lack of transportation was a common barrier experienced by a substantial portion of older adults at risk for social isolation.

Personal finances were also a common theme among participants of this population. It is important to know if older adults simply want more financial freedom or if basic necessities are all that their income will afford them. Quantitative research could explore the existence between the fixed incomes of this population and their cost of living. Additionally, this research could inquire as to participant awareness of current discounts available to older adults. This could potentially lead to increased awareness of discounts available to older adults and inspire additional discounts.

The suggestions above of larger scale investigations would provide a picture of the most common circumstances associated with the risk of social isolation of older adults but might not promote remedy to any. As prior research has suggested, cultural variation in the experience and perception of social isolation exists (Krivo et al., 2013; Lelkes, 2013; Platt, 2009). Therefore, it is the belief of this researcher that members of this population would be best served by community based participatory action research. Focus groups within large urban and suburban locales would be most likely to have the resources necessary to investigate approaches that were likely to reach the most at-risk members of this population and engage them in the process of repeating implementation and refinement until a satisfactory outcome was achieved. Inclusion of several locations in this type of research would potentially identify culturally and geographically specific circumstances and experiences associated with the development and prevention of social

isolation. The most effective and culture specific methods would potentially serve as adjustable models for other communities.

Most every participant of this research expressed at least one negative experience that they perceived as motivated by their age. As indicated by Wilson et al., (2011), elimination of ageism might be the most effective means of combating social isolation among older adults. It is baffling that in our society, a society that promotes acceptance and respect of others ageism continues. This is especially disturbing as the potential to be subjected to the negative aspects of ageism exists for us all. Methods of altering public perception with media that celebrates the knowledge and skills primarily possessed by older adults might be an effective strategy to combat ageism.

Implications

A multidimensional phenomenon, the potential for social change relative to social isolation is also multidimensional. Through the voice of older adults at risk of social isolation this study affords well-integrated individuals the opportunity to increase their understanding of social isolation and the associated risks. Through increased understanding, positive social change can occur on the individual level, informing personal attitudes and behaviors towards older individuals, reducing some of the risks that increase individual vulnerability to social isolation.

Positive social change relating to the risk for social isolation experienced by older adults, beyond the reach of our personal interactions and specifically those that live alone can achieved on the community, organizational, and national levels. Increased awareness

of the experience, risks, and outcomes associated with social isolation can inform policy change and the creation of prevention strategies and interventions. Motivation for the promotion of positive social change can be altruistic, economic, and/or self-serving.

Improving the life experience of others for altruistic reasoning can easily occur on the community and organizational level. Although, it bears no expectation for anything in return it has the potential to make us feel better and promote an image of philanthropy. From an economic standpoint, community and national level interventions and prevention strategies make good sense financially. As indicated by Masters, Anwar, Collins, Cookson, and Capewell (2017), taxpayer funded local and national health interventions are typically cost saving and provide a return on investment. Identifying with the participants or internalizing their experiences provides the individual the opportunity to consider their future self. The promotion of social isolation prevention and intervention strategies potentially serves as an investment in the future of one's own well-being. Whatever the personal motivation, increased awareness of the experiences and perspectives of older adults at risk for the development of social isolation potentially inspires and facilitates positive social change.

Conclusions

Each of us has the potential to become an older adult that lives alone and therefore, at risk for developing social isolation. More than just the potential to feel lonely, this multidimensional phenomenon is a recognized health risk. Development of social isolation has been associated with a wide variety of risk factors and manifestations

(Shankar, McMunn, Banks & Steptoe, 2011). Potentially experienced as objective and/or subjective social isolation the outcome is the same regardless, all cause increased morbidity and mortality (Holt-Lunstad, Smith, Baker, Harris & Stephenson, 2015; Pantell et al., 2013; Shankar, McMunn, Banks, & Steptoe, 2011). The same is true for those who choose a life of solitude and isolation.

While it is true that cultural variation exists in relation to the experience and perceptions associated with social isolation (Krivo et al., 2013; Lelkes, 2013; Platt, 2009), increasing international awareness of the phenomenon (Yee, Nair, Wan & Han, 2015), suggests that no culture or country is immune. Participants in this study gave voice to their experiences of being an older adult and living alone. Experiences and perceptions that each of us might one day share.

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Appendix A: Agency Recruitment Letter

Date

From: Nadine Lukes-Dyer
Doctoral Candidate, Walden University
College of Social and Behavioral Sciences
Street Address
Email: Nadine.Lukes-Dyer@waldenu.edu
Phone: XXX-XXX-XXXX

To: Organizational Contact
[Title | Company | Address | City | State | Zip]

Dear Organizational Contact:

I am writing to provide you with information about a doctoral research study focusing on older adults at risk of social isolation and ask that you consider referring potential participants for inclusion.

The purpose of this study is to increase understanding of the lived experiences of older individuals at risk for social isolation. Identification of triggers that increase an individual's perception of social isolation, and/or the risk of developing social isolation, and potential remedies are supplemental goals of this study.

Participation in the study is confidential and will consist of 3 meetings with the researcher. The total time between the first and last meeting will be 4 to 6 weeks. Each of the three meetings will take place at a location of the participant's choosing and via telephone is an option for the third meeting. During the initial meeting the voluntary nature of participation will be explained, sociodemographic data collected, and a 2-week diary consisting of 8 daily questions will be provided for participant entries. This meeting should take approximately 30 minutes and diary entries should take each participant less than 10 minutes per day. The second meeting will involve collection and review of the diary entries and a recorded face-to-face interview comprised of 40 semi-structured questions and is expected to last approximately 1.5 hours. The purpose of the third meeting will be to ensure the accuracy of researcher interpretation and is expected to last less than 30 minutes.

A phonebook containing the contact information of agencies, organizations, services, and other resources relevant to members of this population and a $10 gift card will serve as compensation for participation in the study. As participation is 100% voluntary, all

potential participants that meet the criteria indicated below will receive the compensatory items during the first meeting regardless of their participation status.

The participants sought for this study are aged 60 years or older, live alone in a private residence, and speak English.

For your convenience, I am enclosing a few copies of a flyer and letter intended for potential participants. I look forward to speaking with any individuals interested in participating in this study.

Please feel free to contact me regarding additional information or questions.

Sincerely,

Nadine Lukes-Dyer

Doctoral Candidate

Enclosure: Participant Recruitment Flyer (5), Participant Recruitment Letter (5)

Appendix B: Participant Recruitment Letter

Date

From: Nadine Lukes-Dyer
Doctoral Candidate, Walden University
College of Social and Behavioral Sciences
Street Address
Email: Nadine.Lukes-Dyer@WaldenU.edu
Phone: XXX-XXX-XXXX

To: Potential Participants

Dear Potential Participant:

I am writing to tell you about a doctoral research study focusing on older adults that live alone and ask that you consider participating.

The participants sought for this study are aged 60 years or older, live alone in a private residence, and speak English.

Participation in the study is confidential. You will be asked to make daily entries into a diary and meet with me 3 times. The total time between the first and last meeting will be 4 to 6 weeks. Each of the three meetings will be held at a place of your choosing and via telephone is an option for the third meeting.

- During the initial meeting, I will explain the voluntary nature of participation, provide you with a 2-week diary, ask you to fill out a few short forms, and give you the thank you gifts. This meeting should take about 30 minutes.

- During the second meeting, I will collect the diaries, fill out a form with you, and interview you. During the interview I will ask you 40 questions and ask for your feedback about the diary and questions. This meeting will last about 1.5 hours.

- The purpose of the third meeting is to ensure that I correctly understood all of your answers. I will review your answers with you and correct any errors. This meeting should last less than 30 minutes and can be in person or on the telephone.

To thank you for your time, I will provide you with a phonebook with many resources relevant to older persons and a $10 gift card.

I look forward to including you in my research. Please feel free to contact me with any questions about this research.

Sincerely,

Nadine Lukes-Dyer

Doctoral Candidate

Appendix C: Demographic Survey

Participant _____

1. What are your date of birth and current age?

Date of Birth _____ Current Age _____
Month Day Year

2. What is your gender? ☐ Male ☐ Female

3. What is your marital status? ☐ Single ☐ Married ☐ Divorced ☐ Widowed

4. What is your race? *Please mark one or more boxes*

☐ White
☐ Black or African American
☐ American Indian or Alaskan
☐ Asian Indian
☐ Chinese
☐ Samoan
☐ Japanese
☐ Korean
☐ Vietnamese
☐ Native Hawaiian
☐ Guamanian or Chamorro
☐ Other

5. Where were you born?

6. Are you a citizen of the United States?

☐ Birthright ☐ Naturalized ☐ Resident Alien

7. What is the highest level of education you have completed?

☐ Some high school
☐ Some college
☐ Associate's degree
☐ Master's degree
☐ High school graduate
☐ Vocational certificate
☐ Bachelor's degree
☐ Other higher degree (DDS, JD, MD, PhD etc.)

8. What is your current employment status?

☐ Employed part time
☐ Retired
☐ Employed full time
☐ Disabled

9. What type of residential structure do you live in?

☐ House ☐ Condo/Duplex ☐ Mobile home ☐ Apartment

10. Do you own or rent your residence? ☐ Own ☐ Rent

11. How long have you lived at your current residence? _____

12. How long have you lived alone? _____

Permission to Use Demographic Survey Questions

All questions in the demographic survey are duplicates of or based on the 2015 American Community Survey (United States Department of Commerce, 2014). Per the U.S. Department of Commerce (2014) all census related material is public domain. Therefore, no permission is required. The following statement appears on the governing agency's website:

"*All U.S. Census Bureau materials, regardless of the media, are entirely in the public domain. There are no user fees, site licenses, or any special agreements etc for the public or private use, and or reuse of any census title. As tax funded product, it's all in the public record".*

U.S. Department of Commerce, 2014

It was retrieved from: https://ask.census. gov/faq.php?id=5 000&faqId=537

Appendix D: 6-Item DJGLS

Participant _____

For each statement please place an "X" next to the most accurate response.

1. I experience a general sense of emptiness
___ strongly agree ___ agree ___ more or less ___ disagree ___ strongly disagree

2. There are plenty of people I can lean on when I have
___ strongly agree ___ agree ___ more or less ___ disagree ___ strongly disagree

3. There are many people I can trust completely
___ strongly agree ___ agree ___ more or less ___ disagree ___ strongly disagree

4. I miss having people around me
___ strongly agree ___ agree ___ more or less ___ disagree ___ strongly disagree

5. There are enough people I feel close to
___ strongly agree ___ agree ___ more or less ___ disagree ___ strongly disagree

6. I often feel rejected
___ strongly agree ___ agree ___ more or less ___ disagree ___ strongly disagree

From: Nadine Lukes-Dyer <nadine.lukes-dyer@waldenu.edu>
Sent: Wednesday, September 30, 2015 7:56 PM
To: Jenny Gierveld
Subject: Permission to use 6 - item de Jong Gierveld Loneliness Scale

Dear Dr. de Jong Gierveld,

I am a doctoral candidate at Walden University in the process of writing the proposal for a phenomenological dissertation focusing on older adults that live alone and are at risk of developing social isolation. I would like your permission to use the 6 item de Jong Gierveld Loneliness Scale in my research.

In accordance with the guidelines for use as specified in the Manual of the Loneliness Scale (1999), use of the scale would be for the purpose of scientific research related to my doctoral study. The reference citation would appear as:

de Jong Gierveld, J., & van Tilburg, T.G. (2006). A 6 item scale for overall, emotional, and social loneliness: Confirmatory tests on survey data. *Research on Aging, 28 (*5), 582-598. doi: 10.1177/0164027506289723

Thank you for your consideration.
Sincerely,

Nadine Lukes-Dyer

Program of Study: General Psychology - Research and Evaluation
XXX-XXX-XXXX
Nadine.Lukes-Dyer@WaldenU.edu or
XXX@yahoo.com

From: **Jenny Gierveld** <Gierveld@nidi.nl>
Date: Thu, Oct 1, 2015 at 1:04 AM
Subject: Re: Permission to use 6 - item de Jong Gierveld Loneliness Scale
To: Nadine Lukes-Dyer <nadine.lukes-dyer@waldenu.edu>

Dear Nadine,

Thank you for your mail and thank you for informing us about using the 6 item loneliness scale.

In attach I send you some additional information about the 6-item scale and the concept of loneliness. If you do need other publications, just let me know.

Best wishes,.

Jenny Gierveld

prof. dr Jenny Gierveld
Prof. em. Faculty of Social Sciences, VU University Amsterdam
Honorary Fellow Nederlands Interdisciplinair Demografisch Instituut (NIDI)
post address: P.O.Box 11650, 2502 AR Den Haag, the Netherlands
tel. 070 3565200 (or +31 70 3565200)
email: gierveld@nidi.nl
Website: JennyGierveld.blogspot.nl
English website: JennyGiervelden.blogspot.com

Appendix E: LSNS-6

Participant:_____

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

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

___ none ___ one ___ two ___ three or four ___ five thru eight ___ nine or more

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

___ none ___ one ___ two ___ three or four ___ five thru eight ___ nine or more

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

___ none ___ one ___ two ___ three or four ___ five thru eight ___ nine or more

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

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

___ none ___ one ___ two ___ three or four ___ five thru eight ___ nine or more

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

___ none ___ one ___ two ___ three or four ___ five thru eight ___ nine or more

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

___ none ___ one ___ two ___ three or four ___ five thru eight ___ nine or more

From: Nadine Lukes-Dyer <nadine.lukes-dyer@waldenu.edu>
Date: Wed, Sep 30, 2015 at 11:18 AM
Subject: LSNS-6
To: jooyoung.kong@bc.edu
Cc: lubben@bc.edu

Dear Jooyoung Kong,
I am a doctoral candidate at Walden University in the process of writing the proposal for a phenomenological dissertation focusing on older adults that live alone and are at risk of developing social isolation. I would like to obtain permission to use the Lubben Social Network Scale – 6 as part of my doctoral research and I believe that you are the point of contact.

Although permission to use the scale is granted on the Boston College website, my dissertation proposal necessitates a more formal acknowledgment of permission to use.

As requested on the website I have included the demographic survey with my request.

Thank you for your consideration.

Sincerely,

Nadine Lukes-Dyer

Nadine Lukes-Dyer
Program of Study: General Psychology - Research and Evaluation
XXX-XXX-XXXX
Nadine.Lukes-Dyer@WaldenU.edu or
XXX@yahoo.com

cc. lubben@bc.edu

From: James Lubben <lubben@bc.edu>
Date: Wed, Sep 30, 2015 at 12:01 PM
Subject: Re: LSNS-6
To: Nadine Lukes-Dyer <nadine.lukes-dyer@waldenu.edu>
Cc: jooyoung.kong@bc.edu

Nadine,

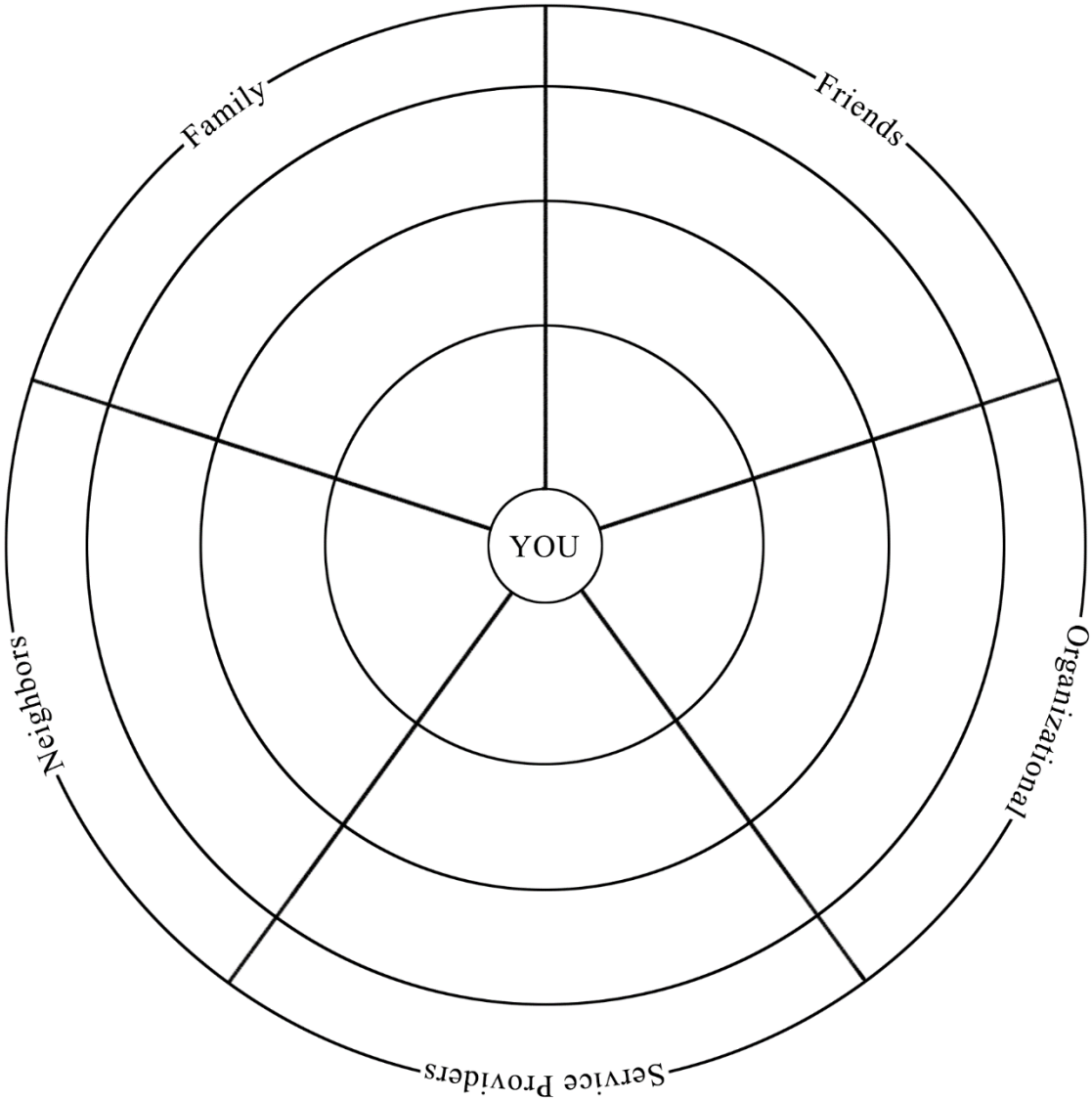
You certainly have our permission to use the Lubben Social Network Scale in any of its forms including the LSNS-6. We do request that when you publish your research results you send us a copy along with the citation. We wish you well in your scholarship.

All the best,
Jim Lubben

Louise McMahan Ahearn Professor of Social Work
Director Institute on Aging
Boston College

Appendix F: Social Support Profile

Participant _____



Adapted from the Five Field Map (Samuelsson, Thernlund, & Ringstrom, 1996).

Multiple methods were attempted to no avail to locate contact information for the primary author Margareta Samuelsson. Contact information was located for the second author Gunilla Thernlund and permission was requested but no response was received. Therefore, permission was sought and granted through RightsLink, the automated permissions granting service utilized by Sage Publications. A series of predetermined questions were answered in relation to the intended use of the journal article content and the permission below was generated.

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Title: Using the Five Field Map to Describe the Social Network of Children: A Methodological Study:

Author: Margareta Samuelsson, Gunilla Thernlund, Jerker Ringström

Publication: International Journal of Behavioral Development

Publisher: SAGE Publications

Date: 06/01/1996

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Appendix G: Social Support Profile Data Collection Tool

Participant_____

Frequency of contact	Family	Friends	Neighbors	Organizational	Service Providers
Daily or can call 24/7					
2+ times per week					
Monthly					
Every 2-3 months					
1 – 4 times per year					

This form included in participant diary. Data collected to be placed into Social Support Profile during formal interview.

Appendix H: Diary Questions

1. How would you describe your sleep last night? _____

_____

2. Thinking about yesterday, how would you describe your activities and interactions?_____

_____

3. Approximately how much time did you spend doing the following?

Reading _____Using a computer _____Watching TV _____

4. Even if yesterday was a fantastic day, is there anything that could have made it better? _____

_____

5. How are you feeling today? _____

_____

6. What are your plans for today?_____

_____

7. Is there anything that you need or want to do today but will not due to lack of assistance or companionship? If so, what and why not? _____

_____

8. If there is anything else you would like to mention please do so on the back of this page.

Appendix I: Interview Questions

1. What are some of the things that you enjoy?
2. How do you feel about living alone?
3. Please describe any changes you have noticed in yourself since you started living alone?
4. How long have you lived alone? What were some of the things that contributed to your living alone?
5. In your opinion what are the best and worst things about living alone? Why?
6. How would you describe your health?
7. How would you describe your quality of life?
8. Please describe your ideal living situation.
9. What activities or interactions would you pursue more frequently if you were able?
10. What are the obstacles that prevent you from pursuing those activities? What are some possible remedies to the obstacles?
11. Please describe the members of your family (children, siblings, etc.).
12. How would you describe your relationship with your family?
13. How would you feel about living with a family member (in their home or yours)?
14. Has your role within your family changed over the years and has this affected your relationships with family members? Why do you think this is and how does it make you feel?

15. Who are you most likely to confide in? Why this particular person?
16. What are your feelings about your ability to engage in enjoyable activities with friends?
17. What are the life circumstances that would make growing old ideal and what would make it unbearable?
18. Can you think of a time when you chose not to attend a social gathering because you would have attended alone?
19. What is/was the nature of your employment?
20. How would you feel about having a work supervisor and coworkers that were much younger than you?
21. Can you think of a time when you felt you were treated poorly in the workplace (or elsewhere) because of your age?
22. How do you feel about your relationships with your neighbors? Do any of them offer to assist you or ask that you assist them?
23. Over the course of time, what changes have you seen in your neighborhood? Do you feel that you are an included member of your neighborhood community?
24. What are your thoughts about the level of safety in your neighborhood? Do you believe any of your neighbors are dangerous?
25. What are your thoughts on community sponsored activities and services for older people? Please provide examples.

26. What are the community and neighborhood activities and services you believe would benefit older individuals who live alone?
27. What are your thoughts on opportunities for older individuals to work or volunteer in your community?
28. Have you ever felt that you were treated differently by someone because of your age? Can you provide some examples?
29. Have you ever felt that you were treated differently by someone because you live alone? Can you provide some examples?
30. What are your thoughts about the attitudes towards older people held by society as a whole?
31. What are your thoughts about government spending and initiatives that affect older people?
32. What types of programs that benefit older people do you think the government should fund? What government initiatives would you be willing to fight for/against?
33. Which government and/or societal attitudes do you find frightening?
34. What lessons do you believe younger generations could learn from the population of older people?
35. What are your thoughts on the benefits and dangers associated with the advances in technology that have occurred over the last 20 years?

36. What are your thoughts on your ability to communicate via email, SMS, and video chatting as opposed to via face-to-face, mail, and telephone?
37. What are your thoughts on the future? For yourself and others?
38. If you were able, what would you change about: yourself, your family, your neighborhood, and society?
39. If you wanted to explore how the experiences and perceptions of older individuals living alone relate to the risk and prevention of social isolation what question would you ask and how would you answer that question if it was asked of you?