

The Effects of Social Isolation and Loneliness on Well-being



A Synthesis of the Emerging Literature

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1.

Introduction

Purpose

Social integration and support have protective effects on morbidity and mortality outcomes and are critically involved in the maintenance of health (Gerst-Emerson & Jayawardhana 2015). How are social isolation and loneliness related to health and quality of life for individual who are isolated due to disability, age, or income? Can more intentional living arrangements such as cohousing or intentional communities help to overcome social isolation or perceived loneliness of persons with disabilities, aging individuals, and those living in poverty? Understanding the link between social isolation and loneliness and well-being is an essential step toward ameliorating health disparities and quality of life among our populations at risk of becoming isolated due to disabilities, age or income.

Method

A search of literature was conducted to explore the effects of social isolation and loneliness on wellbeing. Two search engines were used through the OHSU Library; Ovid MEDLINE and PsycINFO.

Parameters used for the search through both engines consisted of the years 2007 - current, English language articles and human subjects. The search terms selected included social isolation, marginalization, health behavior, morbidity, social conditions, social environment, loneliness, adverse effects, health status, disease attributes, mental disorders. Through Ovid MEDLINE, the search identified 705 potential articles out of which 42 were selected for further review using the keywords ageing, disability, income, community, neighborhood, loneliness, isolation, health, older, poverty, income. Through PsycINFO, the search identified 288 potential articles of which 12 were selected for further review based on the same keywords. Upon further review, 17 additional articles were rejected due to small participant numbers or topic disparity with a total of 37 selected for final review.

Scales / Research assessment tools

Below is a list of assessment tools and scales used in the articles in this review:

- UCLA Loneliness Scale (Shankar and Steptoe)
- de Jong Gierveld Loneliness Scale (Hawthorne, Pettigrew, Cornwell, LaGrow, Nicholson, Ferreira-Alves, van der Pers, Henning-Smith)
- Hughes Loneliness scale (Gerst-Emerson)
- ELSA - English Longitudinal Study of Ageing (Steptoe, Shankar)
- OPUS, a social care outcome measure for older people (Hawton)
- ICECAP, for assessing the capabilities of older people (Hawton)
- QALY - cost per quality adjusted life year (Hawton, Cooper,)

- SF-12 / SF-6D - Short form health survey (Gopinath, Hawton, Hodge)
- EQ-5D - EuroQol five - standardized instrument for measuring generic health status. (Hawton)
- LSI-A -Life Satisfaction index (Saito)
- GDS - Geriatric Depression Scale (Saito)
- AOK - Ando-Osada-Kodama loneliness scale (Saito)
- ICD-9 - International Classification of Diseases, ninth Revision (Tittman)
- ISEL - Interpersonal Support Evaluation List scale (Tittman)

Terminology

- **Loneliness**
 - An aversive emotional state, experienced subjectively and related to a perceived deficiency in one's social or emotional relationships (La Grow, 2012)
- **Social isolation**
 - immediate stimulus—the absence of meaningful social contact (trait loneliness) (Hawthorne, 2007 & LaLa Grow, s., Alpass, F., Rodgers, V. (2012). Loneliness and self-reported health among persons in New Zealand. *Australian Journal on Ageing*, 31, 121-123. Grow, 2012)
 - “the definition of social isolation has lacked theoretical clarity, and the construct has been described as notoriously difficult to measure” (Hawton, 2011 p.65)
 - Core concept is “absence of contact from other people” (Hawton, 2011, p.58)
 - objectively categorized self-report data
 - a state in which the individual lacks a sense of belonging socially, lacks engagement with others, has a minimal number of social contacts and they are deficient in fulfilling and quality relationships. (Nicholson,2009, p. 1346)
- **Wellbeing**
 - state of being comfortable, healthy, or happy (Oxford Dictionary)
- **SRH / HRQL**
 - Self rated health (Heritage, 2008)
 - Health-related Quality of Life (Hawton, 2011)

Results

A total of 37 studies met the preset criteria referenced above and are detailed within this review. For organizational purposes, the studies were divided into five categories dependent on their focus:

- Social isolation among Older Adults - 22/37
- People with low income - 3/37
- People with disabilities - 3/37
- Impact of neighborhood - 7/37
- Impact of community belonging - 2/37

Each of the thirty-seven studies in this review was summarized and available data organized by author, year, title, type of paper, main findings, sample size and population background.

Findings

The studies show several factors contribute to isolation and loneliness. Income is a consistent predictor of isolation with lower income people experiencing greater isolation and less sense of belonging than higher-income people (Heritage, 2008). According to Coyle (2012) living alone contributes to a higher risk for mortality with socially isolated adults having a range of health risks such as increased systolic blood pressure, infection, impaired cognitive function, sleep issues, depression and mortality. “The findings of this study confirm that social isolation is associated with higher mortality in older men and women but indicate that this effect is independent of the emotional experience of loneliness” (Steptoe, 2013 p.5799). Lower levels of education compound the effects of social isolation on health and cognition and, as a group, individuals with lower levels of education benefit the most from intervention (Isaac, 2009). Perceived social isolation increases with each additional chronic health condition. Incontinence was a stronger predictor of perceived social isolation than other illnesses (Hawthorne, 2007). Access to community is a considered factor. For persons that experience disability, urban spaces and the use of them have changed over the last few decades. The most visible signs of inclusion tend to be to the physical environment as in, ramps, lifts and tram stops. However, this has not resulted in greater inclusion for those with intellectual disabilities. While Australian policy requires inclusion for persons with mental disabilities, this has not produced social inclusion for people affected. There are still issues surrounding indifference and hostility toward people with disabilities. More thought needs to be put into the creation of public spaces to allow for successful “convivial” interactions for those with and without disabilities (Bigdy & Wiesel 2011). Place and supports within geographic location may impact isolation and loneliness. According to Tittman (2016) the correlation between geographic isolation and overall social support, when controlling for age and socioeconomic status, was not statistically significant. There was no inverse relationship between geographic isolation and the potential of intentional social support, however Gavin et al (2015) suggests neighborhoods, the places where we live, work, play, and age, affect health and life expectancy.

Discussions and Recommendations

The parameters of this study were limited by the data bases available, the number of studies addressing these issues and the challenges around the measurements of isolation and loneliness.

According to Coyle, (2012) It is argued by some researchers the constructs of social isolation and feelings of loneliness should be treated separately (Cornwell & Waite, 2009) while others view loneliness as just one type of isolation (Weiss, 1973) and still others define loneliness as one potential side effect of social isolation (Nicholson & Nicholson, 2009). These numerous definitions of social isolation lack clarity, uniformity and consistency in definition or measurement. This conceptual ambiguity poses real challenges to developing the knowledge and generating testable hypotheses in this area of research. The study presented advances our knowledge of social isolation and loneliness by understanding the two are separate constructs and should not be measured as one.

A majority (59%) of the studies available addressed loneliness and isolation in the elderly. The results show that there is an overabundance of evidence demonstrating numerous negative health outcomes and potential risk factors related to social isolation for the elderly. However, there is scarce evidence that public health professionals are assessing social isolation in older persons, despite their unique access to very socially isolated, homebound older adults.

Additionally, few viable interventions were found; therefore, it is advisable to focus on the prevention of social isolation in older adults. Public health professionals can take steps toward increasing the early assessment of social isolation and referring at-risk individuals to available community resources to prevent social isolation or further isolation, which would serve to reduce the numerous negative health outcomes associated with this condition (Nicholson, 2012).

According to Hawton (2011), “Addressing and reducing social isolation, and preventing its initial advent, may give a significant and meaningful improvement in health gain, regardless of co-morbid conditions” p. 66. Hawton also recommends that identifying and remediating social isolation for at risk seniors before quality of life changes occur, should be part of the broader approach for health providers and social policymakers. Hawton acknowledges this will be challenging, but their research indicates that the gains have proved to be cost effective.

The relationship between social isolation [objective] and loneliness[subjective] has a low to moderate correlation. In older adults, experience of smaller networks impacts the experience of isolation. Frequency of contact maybe the key to reducing health-risk behaviors. Incorporation of educational and social activities for elders will beneficially impact levels of blood pressure and inflammatory responses, associated with perceived isolation (Coyle, 2012).

Studies regarding people who experience serious mental illness or disability were few in this review (8%) and limited in scope, however according to Weiner et al. (2010) no difference was found in loneliness, quality of life, or psychiatric symptoms between group homes or community centers. However, group homes provided more social support and while more independent housing may not necessarily prevent loneliness, it can influence its impact upon quality of life. Research was not found pertaining to persons living independently or in housing of their choice. Research suggests that the design of social spaces with a mind toward the interaction of persons with disabilities with nondisabled strangers, such as libraries and community centers should be considered. This would allow for ease of social encounters (Bigdy & Wiesel 2011).

The addition of poverty and low educational attainment exacerbates the effects of social isolation in all studied age groups (Heritage, 2008).

Gavin et al. (2015) found that in neighborhoods, community-led initiatives can produce results. To be effective, models must be community envisioned, implemented and sustained. Community work groups should develop and advance strategies. Outside agents should only serve as facilitators, technical and theoretical assistants, not advisers or managers. The direct relationship between social support and overall health stresses the importance of developing and maintaining strong social support networks. For persons living in rural areas improvements can be made through rural support groups that have the unique ability to assist rural residents in fostering social support systems, advocating stress management techniques, and achieving a greater sense of well-being (Tittman 2016).

According to Pettigrew (2008), behaviors that ameliorate loneliness include: friends and family as emotional resources, eating and drinking rituals and constructive pastimes. Social relationships act as a buffer to negative health effects by lowering stress, providing encouragement to seek appropriate medical treatment, adhering to medication and treatment plans and limiting negative health behaviors (Coyle, 2012). Community-belonging was strongly related to health-behavior change and may be an important component of population health prevention strategies. Efforts to increase community-belonging need to be considered along with contextual factors (Hystad & Carpiano

2012).

“Reducing both social isolation and loneliness are important for quality of life and well-being, but efforts to reduce isolation would be likely to have greater benefits in terms of mortality” (Steptoe, 2013, p. 5799).

A majority of the research found in this review focused on the elderly population. The effects of loneliness and isolation on well-being would be better understood if research was broadened and extended to include persons of other vulnerable populations, such as those experiencing poverty, developmental or physical disability. Additionally, because of the challenges of measuring the subjective experience of loneliness, a gathering of the anecdotal stories of these people may provide a richer picture of this experience and lead to other specific topics for further research.

2. Literature Review

Topical Discussions

1. Social Isolation Among Older Adults

- Nicholson, N. (2012). A Review of Social Isolation: An Important but Under Assessed Condition in Older Adults. *J Primary Prevent*, 33, 137-152.
- Lund, R., Nilsson, C., Avlund, K. (2010). Can the higher risk of disability onset among older people who live alone be alleviated by strong social relations? A longitudinal study of non-disabled men and women. *Age and Ageing*, 39, 319-326.
- Tami, Y., Sasaki, Y., Haseda, M., Kondo, K. Kondo, N. Yukako, T., Yuri, S. (2015). Eating alone and depression in older men and women by cohabitation status. *Age and Ageing*, 44, 1019-1026.
- Pettigrew, S., Roberts, M. (2008) Addressing loneliness in later life, *Aging & Mental Health*, 12(3), 302-309.
- Cornwell, E., Waite, L. (2009). Social Disconnectedness, Perceived Isolation, and Health Among Older Adults. *Journal of Health and Social Behavior*, 50, 31-48.
- Hawton, A., et al. (2011). The impact of social isolation on the health status and health-related quality of life of older people. *Quality of Life Research Journal*, 20, 57-67.
- Saito, T., Kai, I., Takizawa, A. (2012). Effects of a program to prevent social isolation on loneliness, depression, and subjective well-being of older adults: A randomized trial among older migrants in Japan. *Archives of Gerontology and Geriatrics*, 55, 539-547.
- Isaac, V., Stewart, R., Artero, S., Ancelin, M., Ritchie, K. (2009). Social Activity and Improvement in Depressive Symptoms in Older People: A Prospective Community Cohort Study. *American Journal of Geriatric Psychiatry*, 17, 688 - 696.
- La Grow, s., Alpass, F., Rodgers, V. (2012). Loneliness and self-reported health among persons in New Zealand. *Australian Journal on Ageing*, 31, 121-123.
- Coyle, C., Dugan, E. (2012). Social Isolation, Loneliness and Health Among Older Adults. *Journal of Aging and Health*. 24(8), 1346-1363.
- Steptoe, A., Shankar, A., Demakakos, P., Wardle, J. (2013). Social isolation, loneliness, and all-cause mortality in older men and women. *Proceedings of the National Academy of Sciences*, 110(15), 5797-5801.
- Ng, T., et al. (2015). Mortality of older persons living alone: Singapore Longitudinal Ageing Studies. *BMC Geriatrics*, 15, 1-9.
- Shankar, A., et al. (2013). Social Isolation and Loneliness: Relationships With Cognitive Function During 4 Years of Follow-up in the English Longitudinal Study of Ageing. *Psychosomatic Medicine*, 75, 161-170.
- Teguo, M. et al. (2016). Feelings of Loneliness and Living Alone as Predictors of Mortality in the Elderly: The PAQUID Study. *Psychosomatic Medicine*, 17, 904-909.
- Li, T., Zhang, Y. (2015). Social network types and the health of older adults: Exploring reciprocal associations. *Social Science & Medicine*, 130, 59-68.
- Shankar, A., McMunn, (2011). Loneliness, Social Isolation, and Behavioral and Biological Health Indicators in Older Adults. *Health Psychology*, 30(4), 377-385.
- Henning-Smith, C (2014). Quality of Life and Psychological Distress Among Older Adults: The Role of Living Arrangements. *Journal of Applied Gerontology*. 35(1), 39-61.
- van der Pers, M., Mulder, C., Steverink, N. (2015). Geographic Proximity of Adult Children and the Well-Being of Older Persons. *Research on Aging*, 37(5), 524-551.

- Hodge, A., English, D., Giles, G., Flicker, L. (2013). Social connectedness and predictors of successful ageing. *Maturita*, 75, 361-366.
- Ferreira-Alves, J, et al. (2014). Loneliness in middle and old age: Demographics, perceived health, and social satisfaction as predictors. *Archives of Gerontology and Geriatrics*, 59, 613-623.

2. Community

- Hawthorne, G. (2007). Perceived social isolation in a community sample: its prevalence and correlates with aspects of people's' lives. *Social Psychiatry*, 43, 140-15.
- Hystad, P., Carpiano. R. (20012). Sense of Community-belonging and health-behaviour change in Canada. *Journal of Epidemial Community Health*, 66, 277-283.

3. Loneliness as a predictor of Health Care Utilization

- Gerst-Emerson, K., Jayawardhana, J. (2015). Loneliness as a Public Health Issue: The Impact of Loneliness on Health Care Utilization Among Older Adults. *American Journal of Public Health*, 105(5), 1013-1019.
- MacLeod, A., Skinner, M., Wilkinson, F., Reid, H. (2016). Connecting Socially Isolated Older Rural Adults with Older Volunteers through Expressive Arts. *Canadian Journal of Aging*, 35 (1), 14-27.

4. Effects of Geographic Isolation

- Tittman, S., Harteau, C., Beyer, M. (2016). The Effects of Geographic Isolation and Social Support on the Health of Wisconsin Women. *Journal of the Wisconsin Medical Society*, 115(2), 65-69.

5. Isolation issues / persons with disabilities

- Webber, R., Bowers, B., Bigby, C. (2014). Residential aged care for people with intellectual disability: A matter of perspective. *Australian Journal on Ageing*, 33(4), E36-E40.
- Weiner, A., Roe, D., Mashiach-Eizenberg, M., Baloush-Kleinman, B., Maoz, H., Yanos, P. (2010). Housing Model for Persons with Serious Mental Illness Moderates the Relation Between Loneliness and Quality of Life. *Community Mental Health Journal*, 46, 389-397.
- Bigdy, C., Wiesel, I. (2011). Encounter as a dimension of social inclusion for people with intellectual disability: Beyond and between community presence and participation. *Journal of Intellectual and Developmental Disability*. 36(4), 263-267.

6. Neighborhoods and their effect on health / life expectancy

- Gavin, V., Seeholzer, E., Leon, J., Chappelle, S., Sehgal, A. (2015) If We Build It, We Will Come: A Model for Community-Led Change to Transform Neighborhood Conditions to Support Healthy Eating and Active Living. *American Journal of Public Health*, 105(6), 1072-1077.
- Watkins, F. , Jacoby, A. (2007). Is the rural idyll bad for your health? Stigma and exclusion in the English countryside. *Health & Place*, 13, 851-864.
- Tampubolon, G., Subramanian, S.V., Kawachi, I. (2011). Neighbourhood Social Capital and individual Self-Rated Health in Wales. *Health Economics*, 22, 14-21.
- Avan, B.I, Kirkwood, B. (2010). Role of neighbourhoods in child growth and development: Does 'place' matter? *Social Science & Medicine*, 71, 102-109.
- Samuel, L., et al. (2015). Social Engagement and Chronic Disease Risk Behaviors: The Multi-Ethnic Study of Atherosclerosis. *National Institutes of Health - Public Access*,

Feb. (0), 61-66.

- Hayward, E., et al. (2015). Linking social and built environmental factors to the health of public housing residents: a focus group study. *BMC Public Health*, 15, 1-8.

7. Social Ties and Low Income and impacts of SRH

- Stewart, M., Reutter, L., Veenstra, G., Love, R., and Raphael, D. (2007). "Left Out": Perspectives on Social Exclusion and Social Isolation in Low-Income Populations. *Canadian Journal of Nursing*. 39(3), 209-212
- Heritage, Z., Wilkinson, R., Grimaud, O., Pickett, K. (2008). Impact of social ties on self reported health in France: Is everyone affected equally? *BMC Public Health*, 8(243)
- Kennedy-Hendricks, A., et al. (2015). Intergenerational Social Networks and Health Behaviors 30Among Children Living in Public Housing. *American Journal of Public Health*, 105(11), 2291-2297.

Table 1. Literature on the effects of Isolation and Loneliness

Author	Year	Title	Type of Paper	Main Findings	Sample Size	Population Background
Nicholson,R	2012	A Review of Social Isolation: An Important but Under Assessed Condition in Older Adults	Review	Living alone and low socialization is a significant risk factor for disability onset for both men and women.	70 publications	
Tani, Y., etal	2015	Eating alone and depression in older men and women by cohabitation status: The JAGES longitudinal survey	Survey	Eating alone may be a risk factor for depression. Feels of loneliness and living alone as predictors of mortality. Living alone is a predictor of increased mortality risk.	37,193	Japan. Male & female. Age 65+
Hawthorne, G	2007	Perceived social isolation in a community sample: its prevalence and correlates with aspects of people's lives.	Sample questionnaire Survey	9% - 7% reported feelings of social isolation. Perceived social isolation varied by several factors (gender, age group, region of birth, relationship, labor force, income status.) Younger adults had higher probabilities of being classified as socially isolated. [Note - in Australia over 90% of older adults live in their own homes, in communities)	3,015	Australian adults (15+, mean age 45.3 yrs)
Heritage, Z., etal	2008	Impact of social ties on self reported health in France: Is everyone affected equally?	Sample questionnaire Survey	Social isolation is associated with 'less than good' self-rated health. This effect appears to be more important for people on a low income.	5205	French adults

Watkins, F., Jacoby,A.	2007	Is the rural idyll bad for your health? Stigma and exclusion in the English countryside.	Interview	Study found that social outliers (Gay, Divorced, single-childless females, etc) found the small country village isolating.	30	Single village, SE England
Pettigrew, S., Roberts, M.	2008	Addressing loneliness in later life	Interview	Behaviors that ameliorate loneliness include: friends and family as emotional resources, eating and drinking rituals, constructive pastimes.	19	Australians 65+
Stewart, M. etal	2007	"Left Out": Perspectives on Social Exclusion and Social isolation in Low-Income populations.	Interview	Income was a consistent predictor of isolation and sense of belonging to the community; low-income people experienced greater isolation and less sense of belonging than higher-income people	1967	Toronto & Edmonton, CA

Cornwell, E., Waite, L.	2009	Social Disconnectedness, Perceived Isolation, and Health among Older Adults	Data summary	Social disconnectedness and perceived isolation have distinct associations with physical and mental health. Disconnectedness and its perception are both connected to worse physical health outcomes. Worse mental health outcomes appear to be more strongly connected to the perception of isolation.	3005	American, over sampled by race-ethnicity ages 57-85.
Bigby, C., Wiesel, I.	2011	Encounter as a dimension of social inclusion for people with intellectual disability: Beyond and between community presence and participation	Opinion / Perspective	Research should consider the design of social spaces with a mind toward the interaction of persons with disabilities with nondisabled strangers, such as libraries and community centers. This would allow for ease of social encounters.	Lit review	Australian research
Shankar, A., McMunn, A.	2011	Loneliness, Social isolation, and Behavioral and Biological Health Indicators in older Adults	Data Analysis	Loneliness and social isolation may affect health independently through their effects on health behaviors. In addition, social isolation may also affect health through biological processes associated with the development of cardiovascular disease.	8,688, 5K +, UCLA scale	Study subjects in England, age 50+
Lund, R, Nilsson, C. et al	2010	<i>Can the higher risk of disability onset among older people who live alone be alleviated by strong social relations? A longitudinal study of non-disabled men and women.</i>	Data Analysis	Men who live alone can possibly alleviate their risk of disability onset by being socially active and by having access to satisfactory social relations. Women do not seem to benefit as much from cohabitation as men, although women who live alone and who are not satisfied with their social relations also constitute a significant risk category.	2697	Danish, nondisabled older men and women.
Hystad, P., Carpiano, R	2010	Sense of Community-belonging and health-behavior change in Canada	Data Analysis	Community-belonging was strongly related to health-behavior change in Canada and may be an important component of population health prevention strategies. Efforts to increase community-belonging, however, need to be considered along with contextual factors.	119,693	Canadian community health survey.
Weiner, A., et al	2009	Housing Model for Persons with Serious Mental Illness Moderates the Relation Between Loneliness and Quality of Life	BRPS, MANSA & S-SELAS screening and review	Findings of the current study stress the advantages of more independent types of housing and the benefits of the opportunities they provide. Findings also reveal that loneliness, and in particular, romantic loneliness is profound and requires creative efforts, independent of housing types, to provide more opportunities for social relations and intimacy.	117	Israel SMI persons in group homes or community housing.

Hawton, A., et al	2010	The impact of social isolation on the health status and health-related quality of life of older people	EQ-5D & SF-12 w/ Regression analyses	This work highlights the burden that social isolation may have on the health and wellbeing of older people. The potential HRQL gains from addressing social isolation may be considerable, with those at risk of social isolation also a key target group	393	Rural UK 50+ at risk of social isolation
Saito, T., Kai, I., Takizawa, A.	2012	Effects of a program to prevent social isolation on loneliness, depression, and subjective well-being of older adults: A randomized trial among older migrants in Japan.	Randomized trial	Showed a significant positive effect on LSI-A, and negative effect on AOK. Showed no effect on depression. Programs should be customized and targeted to groups with similar experiences.	999/63	Japan, Tokyo suburbs. Ages 65+
Gavin, V., Seeholzer, E., Leon, J., Chappelle, S., Sehgal, A.	2015	If We Build It, We Will Come: A Model for Community-Led Change to Transform Neighborhood Conditions to Support Healthy Eating and Active Living	Report on community engagement model	Community lead initiatives can produce results. These models must be community envisioned, implemented, and sustained. Community working groups develop and advance strategies. Outside agents should only serve as facilitators, technical and theoretical assistants, not advisers or managers.	15% of residents (1800) over 2 years	3 adjacent Cleveland, OH neighborhoods with lower than average reported life-spans
Henning-Smith, C	2014	Quality of Life and Psychological Distress Among Older Adults: The Role of Living Arrangements	Data Analysis - Pearson's chi-squared tests of significance.	Living arrangement impact the reported quality of life for seniors. All participants reported lower QL when living alone or with other, than when living with a spouse/partner. Women in these situations fared worse than men.	4,862	National Health Interview Survey. (IHIS) 65+ non-institutionalized adults
Issac, V., et al	2009	<i>Social Activity and Improvement in Depressive Symptoms in Older People: A Prospective Community Cohort Study.</i>	Data Analysis	Higher social activity was associated with a lower risk of late-life depressive symptoms at baseline and , in those with case-level baseline symptoms, was the principal factor predicting improvement over 2-year follow-up.	1,849	France, Montpellier. Age 65+
La Grow, S., Alpass, F., Rodgers, V.	2012	Loneliness and self-reported health among older persons in New Zealand	Cross-sectional survey	Those who were in the severely and moderately lonely groups scored lower on both health measures than those in the not lonely group.	332	New Zealand. Age 65-98.
Coyle, C., Dugan, E.	2012	<i>Social Isolation, Loneliness and Health Among Older Adults. Journal of Aging and Health.</i>	Survey with logistical regression	Study showed independent risks for health associated with both social isolation and loneliness. Ameliorating feelings of loneliness is complex, but reducing social isolation through programing with volunteers, provides health benefits while providing low cost significant health benefits.	11,825	US 50+

Kennedy-Hendricks, A., et al	2015	<i>Intergenerational Social Networks and Health Behaviors Among Children Living in Public Housing.</i>	Survey with logistical regression	Found that caretaker social networks are independently associated with certain aspects of child health [amount of exercise], suggesting the importance of the broader social environment for low-income children's health.	209	Maryland, US. Low income public housing children & caretakers
Tampubolon, G. et al	2011	Neighbourhood Social Capital and individual Self-Rated Health in Wales	Survey with data analysis	Neighbourhood social capital appears to be associated with self-rated health in the Welsh setting. Living among trusting neighbours, irrespective of one's own sense of trust, is associated with higher self-reported health. Likewise, smoking is negatively associated with social capital: friendly Neighbourhoods and trusting neighbours are marginally beneficial in this respect.	13,557	Wales. M & F, Ages 16-75.
Steptoe, A., et al	2013	Social isolation, loneliness, and all-cause mortality in older men and women	Survey analysis. ELSA - 2004-2005. UCLA scale, Cox regression.	The findings of this study confirm that social isolation is associated with higher mortality in older men and women but indicate that this effect is independent of the emotional experience of loneliness. Reducing both social isolation and loneliness are important for quality of life and well-being, but efforts to reduce isolation would be likely to have greater benefits in terms of mortality.	6,500	British men and women. Age 62+.
Hodge, A. et al	2013	Social connectedness and predictors of successful ageing	Longitudinal study for MCCS	A healthy lifestyle and maintenance of healthy weight not social connectedness improve the chances of ageing successfully. Social connectedness may increase a perception of ageing well, but does not appear to help avoid conditions associated with ageing.	5,512	Men and women 70+
Avan, B.I, Kirkwood, E.	2010	Role of neighbourhoods in child growth and development: Does 'place' matter?	Cross-sectional study	The study draws attention to the importance of taking heed of contextual needs, especially relating to differences between rural and urban neighbourhoods, in the formulation and implementation of early child care and development interventions.	1,244	Pakistan. Children 3-, 15 rural communities, 11 urban.
Ng, T., et al	2015	Mortality of older persons living alone: Singapore Longitudinal Ageing Studies	Longitudinal study SLAS - 8 yrs of mortality follow up data. Cox	Living alone was associated with increased mortality, independently of marital, health and other variables. The impact of living alone on mortality appeared to be stronger among men and those who were single, divorced or married.	2553	Singapore. Men and women. Age 55+.

Shankar, A., et al.	2013	Social Isolation and Loneliness: Relationships With Cognitive Function During 4 Years of Follow-up in the English Longitudinal Study of Ageing.	Regression analyses ELSA 4 year follow period	Loneliness and isolation are associated with poorer cognitive function among older adults. Interventions to foster social connections may be particularly beneficial for individuals with low levels of education.	6,034	England. Men and women. Age 50+
Samuel, L., et al.	2015	Social Engagement and Chronic Disease Risk Behaviors: The Multi-Ethnic Study of Atherosclerosis.	Cross-sectional data analysis MESA	Study found that social support was associated with smoking prevalence and smoking cessation and was more strongly associated with lower prevalence of smoking amongst non-lonely individuals, suggesting an interacting pathway between these two types of social engagement. However, neighborhood social cohesion, a less commonly studied dimension of social engagement, may be more relevant for physical activity and diet and may act via separate pathways.	5,381	U.S, 6 geographical areas: Baltimore City - county, MD, Chicago, IL, Forsyth County, NC, LA county, CA, NY, NY, St. Paul, MN
Tittman, S., Harteau, C., Beyer, K.	2016	The Effects of Geographic Isolation and Social Support on the Health of Wisconsin Women	Cross-sectional survey. WRWI, ISEL	The direct relationship between social support and overall health demonstrated here stresses the importance of developing and maintaining strong social support networks, which can be improved through rural support groups that have the unique ability to assist rural residents in fostering social support systems, advocating stress management techniques, and achieving a greater sense of well-being.	113	Rural Wisconsin. Women.
Ferreira-Alves, J, et al.	2014	Loneliness in middle and old age: Demographics, perceived health, and social satisfaction as predictors	Interview, Data Analysis	Findings suggest that it makes no sense to construe age as a singular feature or cause for feelings of loneliness. Instead, age and also a number of other features combine to predict feelings of loneliness. But even with our predictor variables there was a substantial of variance left unexplained. Therefore it is necessary to continue exploring how feelings of loneliness arise from the experience of living and how they can be changed.	1174	Portugal. . Men and women. Ages 50+
Teguo, M. et al.	2016	Feelings of Loneliness and Living Alone as Predictors of Mortality in the Elderly: The PAQUID Study.	22 yr follow-up cohort study. CESD, Cox	Living alone and feelings of loneliness were independently associated with higher risk of mortality. These factors may be useful as readily available psychosocial measures to identify vulnerability in community-dwelling older adults.	1,535	French. Men and women.

Gerst-Emerson, K., Jayawardhana, J.	2015	Loneliness as a Public Health Issue: The Impact of Loneliness on Health Care Utilization Among Older Adults.	Data analysis. HRS 2008 & 2012. Regression analysis.	Loneliness is a significant public health concern among elders. In addition to easing a potential source of suffering, the identification and targeting of interventions for lonely elders may significantly decrease physician visits and health care costs.	7,060 over both samples .	U.S. Men and women. Age 60+
MacLeod, A., Skinner, M., Wilkinson, F., Reid, H.	2016	Connecting Socially Isolated Older Rural Adults with Older Volunteers through Expressive Arts	Narrative-based analysis. Data triangulation.	Even in the short duration of a 10-week program, a person-centred approach, with control of expression resting with the older adult who identified a need for more social contact, was very personally empowering. This clearly supports the notion of Cohen's (2009) theory that the mediators of positive health outcomes experienced by older adults when creativity is engaged are the social aspects, control, and mastery of meaningful expression.	16 (8 volunteers, 8 participants)	Canadian. Men and women. Ages 55-75.
van der Pers, M., Mulder, C., Steverink, N.	2015	Geographic Proximity of Adult Children and the Well-Being of Older Persons.	4 sets of linear regression models.	Having children contributes to the well-being of older men with a partner. There is evidence for a positive association between proximity of children and parental well-being, in particular for widowed and separated mothers and for separated fathers. Our findings suggest that close proximity may be a condition under which adult children can significantly add to the well-being of widowed and separated mothers and separated fathers.	8,379 90.9 % with children in the Netherlands.	Netherlands. Men and women. Ages 65+

Li, T., Zhang, Y.	2015	Social network types and the health of older adults: Exploring reciprocal associations.	Data analysis. K-means clustering. CLHLS	Study results demonstrate that there are strong reciprocal associations between these two factors. On the one hand, a diverse network type yielded the most beneficial health outcomes as measured by multiple health indicators, and the friend-focused network type is more beneficial than the family-focused network type in physical outcomes but not in psychological outcomes. On the other hand, we found that a decrease in all health indicators leads to withdrawal from more-beneficial network types such as a diversified network type, and a shift to less beneficial network types such as family-focused or restricted networks. The understanding of this reciprocal association could encourage programs designed to enhance healthy aging to focus on improving the bridging social capital of older adults so that they can break the vicious cycle between network isolation and poor health condition	4190	China. Men and Women. Ages
Hayward, E., et al	2015	Linking social and built environmental factors to the health of public housing residents: a focus group study.	Focus Group. Qualitative analysis.	Changes in housing and city policies might lead to improved environmental health conditions for public housing residents. Policymakers and researchers may consider promoting community cohesiveness to attempt to empower residents in facilitating neighborhood change.	28	Baltimore, MD. Men and women. Ages 21-71.

Study 1

- Nicholson, N. (2012). A Review of Social Isolation: An Important but Under Assessed Condition in Older Adults. *J Primary Prevent*, 33, 137-152.
 - Social isolation is a major health problem for older adults living in the community, leading to numerous detrimental health conditions. Social isolations defined as “a state in which the individual lacks a sense of belonging socially, lacks engagement with others, has a minimal number of social contacts and they are deficient in fulfilling and quality relationships”(Nicholson, 2009, p. 1346).

Study 2

- Lund, R., Nilsson, C., Avlund, K. (2010). Can the higher risk of disability onset among older people who live alone be alleviated by strong social relations? A longitudinal study of non-disabled men and women. *Age and Ageing*, 39, 319-326.
 - **Results:** living alone and low social participation were significant risk factors for later male disability onset. Not being satisfied with the social relations was significantly associated with onset of disability for both genders. Among men who lived alone low social participation was a significant predictor of disability onset [odds ratio, OR=2.30 (1.00-5.29)]; for cohabiting men social participation was not associated with disability onset, [adjusted OR=0.91 (0.49-1.71)]. Similar results were present concerning satisfaction with the social relations among men. There was no significant interaction for women.
 - **Conclusions:** the study suggests that men who live alone can possibly alleviate their risk of disability onset by being socially active and by having access to satisfactory social relations. Women do not seem to benefit as much from cohabitation as men, although women who live alone and who are not satisfied with their social relations also constitute a significant risk category.

Study 3

- Tami, Y., Sasaki, Y., Haseda, M., Kondo, K. Kondo, N. Yukako, T., Yuri, S. (2015). Eating alone and depression in older men and women by cohabitation status. *Age and Ageing*, 44, 1019-1026.
 - **Conclusions:** eating alone may be a risk factor for depression. Among men, the effect of eating alone on depression may be reinforced by living alone, but appears to be broadly comparable in women living alone and women living with others

Study 4

- Pettigrew, S., Roberts, M. (2008) Addressing loneliness in later life, *Aging & Mental Health*, 12(3), 302-309.
 - **Conclusions:** Behaviors that ameliorate loneliness include: friends and family as emotional resources, eating and drinking rituals, constructive pastimes.

Study 5

- Cornwell, E., Waite, L. (2009). Social Disconnectedness, Perceived Isolation, and Health Among Older Adults. *Journal of Health and Social Behavior*, 50, 31-48.
 - Purpose of study to use National Social Life, Health, and Aging Project data to examine multiple indicators of physical and mental health outcomes associated with perceived isolation.
 - **Conclusion:** Social Disconnectedness and perceived isolation are independently associated with lower levels of self-rated physical health. Social disconnectedness and perceived isolation should be considered in future studies simultaneously.

Study 6

- Hawton, A., et al. (2011). The impact of social isolation on the health status and health-related quality of life of older people. *Quality of Life Research Journal*, 20, 57-67.
 - A major finding of the current study is that social isolation was significantly, independently related to [negative] health status and Health-related quality of life (HRQL), even when depression, physical comorbidity, age, gender, living alone, employment status and accommodation type were accounted for.
 - The data from this study could be skewed by the original sample set of individuals already assessed as being at risk for social isolation. Also, participants were all from a rural setting.
 - **Conclusion:** “This work highlights the burden that social isolation may have on the health and wellbeing of older people. The potential HRQL gains from addressing social isolation may be considerable, with those at risk of social isolation also a key target group.”

Study 7

- Saito, T., Kai, I., Takizawa, A. (2012). Effects of a program to prevent social isolation on loneliness, depression, and subjective well-being of older adults: A randomized trial among older migrants in Japan. *Archives of Gerontology and Geriatrics*, 55, 539-547.
 - **Methodology:** Randomized trial to assess the effectiveness of programs for the prevention of Loneliness, depression, and their associated health risks on the elderly in Japan.
 - Intervention was programed with 4 2 hour sessions: 1. introductions, 2. discussion with facilitation, 3. identifying desired resources and matching community gatekeepers, 4. tour of locality with focus on visiting resource hubs.
 - **Conclusion:** “Our program had an ameliorative effect on loneliness, subjective well-being, informal social support, and familiarity with the services provided by the community until 6 months after the program. The results of this study suggest that programs aimed at preventing social isolation may be effective when they are tailor-made based on the specific needs of the individual, utilize existing community resources, and target people who can share similar experiences.” (p.546)

Study 8

- Isaac, V., Stewart, R., Artero, S., Ancelin, M., Ritchie, K. (2009). Social Activity and Improvement in Depressive Symptoms in Older People: A Prospective Community Cohort Study. *American Journal of Geriatric Psychiatry*, 17, 688 - 696.
 - **Conclusion:** In a large community sample, higher social activity was associated with a lower risk of late-life depressive symptoms at baseline and, in those with case-level baseline symptoms, was the principal factor predicting improvement over 2-year follow-up.
 - **Risk:** Because of recruitment refusals, the data may contain selection bias.

Study 9

- La Grow, s., Alpass, F., Rodgers, V. (2012). Loneliness and self-reported health among persons in New Zealand. *Australian Journal on Ageing*, 31(2), 121-123.
 - **Key points from survey:**
 - 52% of sample were either moderately or severely lonely
 - Those reporting as lonely had lower physical and mental health scores than those who were not.
 - Even those who were moderately lonely had lower physical and mental health scores than those who were not.
 - **Conclusion:** Those who were in the severely and moderately lonely groups scored lower on both health measures [mental and physical] than those in the

not lonely group.

Study 10

- Coyle, C., Dugan, E. (2012). Social Isolation, Loneliness and Health Among Older Adults. *Journal of Aging and Health*. 24(8), 1346-1363.
 - **Methodology:** Survey data subjected to logistic regression
 - **Key points:**
 - Loneliness and Social Isolation were not highly correlated with one another
 - Loneliness was associated with higher odds of having a mental health problem
 - Isolation was associated with higher odds of reporting one's health as being fair/poor.
 - **Conclusion:** Study showed independent risks for health associated with both social isolation and loneliness. Ameliorating feelings of loneliness is complex, but reducing social isolation through programing with volunteers, provides health benefits while providing low cost significant health benefits.

Study 11

- Steptoe, A., Shankar, A., Demakakos, P., Wardle, J. (2013). Social isolation, loneliness, and all-cause mortality in older men and women. *Proceedings of the National Academy of Sciences*, 110(15), 5797-5801.
 - **Key Findings:**
 - Social isolation was significantly associated with mortality (hazard ratio 1.26, 95% confidence interval)
 - Loneliness alone was not a mortality factor (hazard ratio .92, 95% confidence interval)
 - **Results:** Study defined social isolation and loneliness as scoring within the top quintile. Steptoe used the Cox regression model to compare participants with high and low/average scores on the social isolation index. Also used the UCLA loneliness scale. They found:
 - No sex difference in social isolation.
 - isolated individuals were more likely to be older/unmarried with limited education and lower wealth.
 - isolation also associated with long term limiting illnesses
 - Loneliness was more common in women and was associated with older age, less education, lower wealth, marital status.
 - Their loneliness ratings compare with reported findings in US studies (Hawkley, L., Waite, LJ., Cacioppo, LT. Loneliness, health, and mortality in old age: A national longitudinal study.)
 - **Discussion:**
 - Since loneliness is not a predictor of increased mortality risk, other mechanisms of social isolation may be relevant.
 - Lifestyle risks such as; smoking, inactivity, unhealthy diets,
 - lack of health-protective behavior such as; following medical recommendations
 - Lack of social network; for check ins to offset the risk of acute symptoms development.
 - dangers of social isolation have a spectrum. The top quintile show the highest mortality risk.
 - Isolation is an important factor as increasing percentages of the population are living in social isolation (living alone.)
 - U.S - 17% in 1970 vs 28% in 2011

- no one to talk to: US - 10% in 1985 vs 25% in 2004.
 - England & Wales - percentage of people ages 45-64 living alone rose by 53%.
- Reverse causality
 - social isolation could be more common in those critically ill
 - study excluded the data deaths within 24 months of baseline and the percentage results did not change.
- **Conclusion:** “The findings of this study confirm that social isolation is associated with higher mortality in older men and women but indicate that this effect is independent of the emotional experience of loneliness. Reducing both social isolation and loneliness are important for quality of life and well-being, but efforts to reduce isolation would be likely to have greater benefits in terms of mortality.” p.5799

Study 12

- Ng, T., et al. (2015). Mortality of older persons living alone: Singapore Longitudinal Ageing Studies. *BMC Geriatrics*, 15, 1-9.
 - **Results:** Older persons who live alone are recognized to be a vulnerable risk group in the population requiring special attention. Risks include: difficult living situations, limited resources, lack of support.
 - These associate to lack of informal and formal support for family member and social services.
 - This in turn impacts; monitoring health condition, medical appointments, caregiving, poor self-management of chronic disease and increased risk of dying.
 - The study factored for levels of illness and disability. Those living alone, compared to their counterparts, did not have more medical morbidities or physical functional disability.
 - **Conclusion:** In conclusion, living alone was found to be associated with increased mortality, independently of marital, health and other variables. The impact of living alone on mortality appeared to be stronger among men and those who were single, divorced or married.

Study 13

- Shankar, A., et al. (2013). Social Isolation and Loneliness: Relationships With Cognitive Function During 4 Years of Follow-up in the English Longitudinal Study of Ageing. *Psychosomatic Medicine*, 75, 161-170.
 - **Results:** Social isolation was associated with decreases in verbal fluency, immediate recall, and delayed recall during a 4-year period (large sample.)
 - Loneliness was significantly associated with poorer recall.
 - cognitive function decreases are more pronounced in individual with lower levels of education.
 - **Conclusions:** Social isolation and loneliness were significantly associated with poorer cognitive function in older adults during a 4-year period. There is now a considerable body of research indicating the benefits of a socially integrated life-style. Although interventions to reduce isolation and loneliness have typically shown only limited effectiveness (75), further work in this area is likely to have important public health benefits, particularly among individuals with low levels of education.

Study 14

- Teguo, M. et al. (2016). Feelings of Loneliness and Living Alone as Predictors of Mortality in the Elderly: The PAQUID Study. *Psychosomatic Medicine*, 17, 904-909.
 - **Results:** Of total participants surveyed 13.8% reported frequent feelings of

loneliness. These participants (13.8%) were more frequently:

- Women
- Mean age 76.5
- At the end of the study 3,116 deaths occurred. Living alone and FoL were both independent predictors of death after 22 year of follow-up. Hazard ratio 1.20; 95% confidence.
- **Conclusion:** Living alone and FoL were independently associated with higher risk of mortality. These factors may be useful as readily available psychosocial measures to identify vulnerability in community-dwelling older adults.

Study 15

Li, T., Zhang, Y. (2015). Social network types and the health of older adults: Exploring reciprocal associations. *Social Science & Medicine*, 130, 59-68.

- **Methodology:** Using the Chinese longitudinal Healthy longevity Survey, the study established 4 types of social networks to study.
 - Diverse - 16.5%
 - Friends - 7%
 - Family - 35.7%
 - Restricted - 40.9%
- and aligned them to particular health outcomes.
- **Results:**
 - First - all health measures have a similar influence on individuals network patterns. Declining health resources in all aspects will undermine an individual's social participation.
 - Second - study found no difference between the beneficial effects of the Friend network vs the family network. Both supported the psychological well-being of the older person. The Study notes that since this is a study of Eastern participants that the outcomes are impacted by the difference in Family ties and engagement in the Eastern culture.
 - Third - parsing the types of networks and the number of family categories weighted the study toward the positive effects of family connections. This process may have hidden more-nuanced differences on health effect by other categories.
 - Fourth - The network categories may have been responded to differently by the self-definition of the respondents. (different definitions of what "family" is.)
- **Conclusion:** Study results demonstrate that there are strong reciprocal associations between these two factors. On the one hand, a diverse network type yielded the most beneficial health outcomes as measured by multiple health indicators, and the friend-focused network type is more beneficial than the family-focused network type in physical outcomes but not in psychological outcomes. On the other hand, we found that a decrease in all health indicators leads to withdrawal from more-beneficial network types such as a diversified network type, and a shift to less beneficial network types such as family-focused or restricted networks. The understanding of this reciprocal association could encourage programs designed to enhance healthy aging to focus on improving the bridging social capital of older adults so that they can break the vicious cycle between network isolation and poor health condition

Study 16

- Hodge, A., English, D., Giles, G., Flicker, L. (2013). Social connectedness and predictors of successful ageing. *Maturita*, 75, 361-366.

- o Longitudinal analysis of Melbourne collaborative Cohort Study - 41,514 reporting (5,512 with full data responses and over age 70) used for analysis.
- o **Results:** Body Mass index, low waist/hip ratio, not smoking, physical activity, not having chronic diseases, were predictors of successful ageing.
- o **Conclusion:** A healthy lifestyle and maintenance of healthy weight not social connectedness improve the chances of ageing successfully. Social connectedness may increase a perception of ageing well, but does not appear to help avoid conditions associated with ageing.

Study 17

- Ferreira-Alves, J, et al. (2014). Loneliness in middle and old age: Demographics, perceived health, and social satisfaction as predictors. *Archives of Gerontology and Geriatrics*, 59, 613-623.
 - o **Results:** survey data showed on 12% of participants reported feeling lonely often or always. Authors report that loneliness with advanced age has been greatly exaggerated by mass media and common sense. Other research considered alarmist.
 - o **Conclusion:** Our findings suggest that it makes no sense to construe age as a singular feature or cause for feelings of loneliness. Instead, age and also a number of other features combine to predict feelings of loneliness. But even with our predictor variables there was a substantial of variance left unexplained. Therefore it is necessary to continue exploring how feelings of loneliness arise from the experience of living and how they can be changed.

Study 18

- Hawthore , G. (2007). Perceived social isolation in a community sample: its prevalence and correlates with aspects of people's' lives. *Social Psychiatry*, 43, 140-15.
 - o "Because mental and physical health conditions both predict and are associated with perceived social isolation, prevalence estimates from non-population samples may overstate and distort its correlates." (p.140)
 - o recent research shows it is the quality of relationships that matters rather than the quantity, suggesting that it is the respondent's assessment of their relationship with others rather than the number of social contacts in a person's social network that is important [49, 82,99 -49. de Jong Gierveld J (1987) Developing and testing a model of loneliness. *J Pers Soc Psychol* 53:119-128, 82. Routasalo PE, Savikko N, Tilvis RS, Strandberg TE, Pitkala KH (2006) Social contacts and their relationship to loneliness among aged people—a population-based study. *Gerontology* 52:181-187, 99. Victor C, Scambler S, Bond J, Bowling A (2000) Being alone in later life: loneliness, social isolation and living alone. *Rev Clin Gerontol* 10, 407-417]
 - o widespread belief that social isolation is strongly associated with old age, this belief may be based, at least partly, on the fact that there have been many studies of older adults [43, 64, 82, 90, 94, 100], some of which have shown increases in loneliness by age [30, 82] or mixed results [31], while others have shown a protective effect by age [45, 100]. (p. 145)
 - Note - 90% of older Australians live in their homes in community.
 - o Perceived isolation increases with each additional chronic health condition. Incontinence was a stronger predictor of PSI then other illnesses.

Study 19

- Shankar, A., McMunn, A. (2011). Loneliness, Social Isolation, and Behavioral and Biological Health Indicators in Older Adults. *Health Psychology*, 30(4), 377-385.
 - o "We expected that frequency of contacts rather than perceived isolation would be more relevant for the social cues that are likely to affect behavior choices

and hence, that social isolation would be more strongly related to health-risk behaviors than loneliness.” (p. 378)

- o **Conclusions:** Loneliness and social isolation may affect health independently through their effects on health behaviors. In addition, social isolation may also affect health through biological processes associated with the development of cardiovascular disease.
- o Interventions targeted at specific groups, including those experiencing marital transitions, are likely to be beneficial. These include incorporating educational and social activities.

Study 20

- Hystad, P., Carpiano, R. (20012). Sense of Community-belonging and health-behaviour change in Canada. *Journal of Epidemial Community Health*, 66, 277-283.
 - o **Conclusions:** Community-belonging was strongly related to health-behaviour change in Canada and may be an important component of population health prevention strategies. Efforts to increase community-belonging, however, need to be considered along with contextual factors.

Study 21

- Gerst-Emerson, K., Jayawardhana, J. (2015). Loneliness as a Public Health Issue: The Impact of Loneliness on Health Care Utilization Among Older Adults. *American Journal of Public Health*, 105(5), 1013-1019.
 - o **Results:** From the sample used more than half the population was lonely in both 2008, and 2012. By a stricker scale more than one third were lonely in both years.
 - Respondents that were coded lonely in either year showed a significantly greater number of doctor and hospital visits. These respondents were primarily:
 - female, not married, had more health problems than the general population, and reported a slightly greater average number of chronic conditions.
 - Loneliness was statistically significant and positively associated with the number of doctor visits only for persons lonely at both time points.
 - The study posits that for many, the doctor---patient relationship is one that provides social support rather than solely medical treatment, and that lonely elders seek social contact through these physician visits.
 - o **Conclusion:** Loneliness is a significant public health concern among elders. In addition to easing a potential source of suffering, the identification and targeting of interventions for lonely elders may significantly decrease physician visits and health care costs.

Study 22

- MacLeod, A., Skinner, M., Wilkinson, F., Reid, H. (2016). Connecting Socially Isolated Older Rural Adults with Older Volunteers through Expressive Arts. *Canadian Journal of Aging*, 35 (1), 14-27.
 - o **Method:** “Visible Voices” program. Volunteers / graduates of a community college expressive arts program (included retired teachers, artists, social workers, nurse.) 10 week program, where volunteer lead the participant in express arts (painting, clay sculpture, quilting, etc.) Volunteers kept and engagement log and were supported with personal development in the areas of interpersonal and facilitation skills.
 - o **Conclusion:** The findings illustrate the importance of the relationship between the volunteer and the participant where social engagement, creativity, and self-expression were nurtured. Supported volunteer expressive arts sessions

and other health promotion activities could supplement locally provided informal and formal home care services traditionally rationed for health care and activities of daily living, without dramatically increasing the cost to government, (Markle-Reid et al., 2013), while providing an opportunity for meaningful interactions near the end of life.

Study 23

- Tittman, S., Harteau, C., Beyer, M. (2016). The Effects of Geographic Isolation and Social Support on the Health of Wisconsin Women. *Journal of the Wisconsin Medical Society*, 115(2), 65-69.
 - **Results:** The correlation between geographic isolation and overall social support, when controlling for age and socioeconomic status, was not statistically significant.
 - Found no inverse relationship between geographic isolation and social support.
 - Two specific components of social support were found to be impacted by geographic isolation:
 - belonging support
 - tangible support
 - perceived availability of someone to talk to was not a factor (improved technology has decreased this barrier).
 - Only perceived negative effect of GI on SRHS was access to hospitals and courthouses.
 - NHTS - averaged travel time to health care was 17.5 miles, compared with 8.3 miles for urban residents.
 - **Conclusions:** The direct relationship between social support and overall health demonstrated here stresses the importance of developing and maintaining strong social support networks, which can be improved through rural support groups that have the unique ability to assist rural residents in fostering social support systems, advocating stress management techniques, and achieving a greater sense of well-being.

Study 24

- Webber, R., Bowers, B., Bigby, C. (2014). Residential aged care for people with intellectual disability: A matter of perspective. *Australian Journal on Ageing*, 33(4), E36-E40.
 - o **Findings:**
 - People with intellectual disability are living to old age and experience the same aged-related health problems as other older adults.
 - residential care aided in identification and treatment of illnesses, reducing distress and preventing injuries (lowering “behavior problems related to physical distress, fall prevention.)
 - social isolation increased with admittance to residential care.
 - loss of regular familial contact
 - resistance of resident to participate
 - perception of other residents concerning those with ID
 - o **Conclusions:** Social isolation could be decreased if several people with ID resided in a facility. This would enable residential aged care services to begin to build up expertise around supporting residents with ID. This is more likely to happen if they have several clients as they may invest in training for staff and put effort into adapting programs to accommodate their needs.
 - Aged care facilities need to build up expertise in working with people with ID and both the aged care and disabilities sectors would benefit from working closer together to address the needs of this population.

Study 25

- Weiner, A., Roe, D., Mashiach-Eizenberg, M., Baloush-Kleinman, B., Maoz, H., Yanos, P. (2010). Housing Model for Persons with Serious Mental Illness Moderates the Relation Between Loneliness and Quality of Life. *Community Mental Health Journal*, 46, 389-397.
 - **Results:** Of all the screening measures, no difference was found in loneliness, quality of life, or psychiatric symptoms between group homes or community centers. However, group homes provided more social support.
 - **Conclusion:** Results of the current study suggest that while more independent housing may not necessarily prevent loneliness, it can influence its impact upon QOL.

Study 26

- Bigdy, C., Wiesel, I. (2011). Encounter as a dimension of social inclusion for people with intellectual disability: Beyond and between community presence and participation. *Journal of Intellectual and Developmental Disability*. 36(4), 263-267.
 - Physical urban spaces and the use of them have changed over the last few decades. This has not resulted in greater inclusion for those with disabilities. More thought needs to be put into the creation of public spaces to allow for successful “convivial” interactions.
 - While Australian policy requires inclusion for person with mental disabilities, this has not produced social inclusion for people affected. The most visible signs of inclusion tend to be to the physical environment as in; ramps, lifts, tram stops.
 - There are still issues surrounding indifference and hostility toward people with disabilities.
 - **Conclusions:** Research should consider the design of social spaces with a mind toward the interaction of persons with disabilities with nondisabled strangers, such as libraries and community centers. This would allow for ease of social encounters.

Study 27

- Gavin, V., Seeholzer, E., Leon, J., Chappelle, S., Sehgal, A. (2015) If We Build It, We Will Come: A Model for Community-Led Change to Transform Neighborhood Conditions to Support Healthy Eating and Active Living. *American Journal of Public Health*, 105(6), 1072-1077
 - NEIGHBORHOODS, the places where we live, work, play, and age, affect health and life expectancy.¹ Residents of 3 adjacent Cleveland, Ohio, neighborhoods have average life expectancies 15 years less than residents of a suburb 8 miles away.²
 - **Key findings:**
 - Community lead initiatives can produce results.
 - These models must be community envisioned, implemented, and sustained.
 - Community working groups develop and advance strategies.
 - Outside agents should only serve as facilitators, technical and theoretical assistants, not advisers or managers.

Study 28

- Watkins, F., Jacoby, A. (2007). Is the rural idyll bad for your health? Stigma and exclusion in the English countryside. *Health & Place*, 13, 851-864.
 - Interviews with individuals from a single English village. Intent to explode the myth of the “Rural idyll.”
 - “Link and Phelan (2001) have argued that stigma matters for public health

because stigma generates stressful circumstances and compromises a person's ability to cope with these circumstances. This can result in the increase in likelihood of experiencing ill health and mental health problems." (p. 861)

- **Conclusion:** Study found that social outliers (Gay, Divorced, single-childless females, etc) found the small country village isolating. "This inequality of being is self-evident in the case studies presented here and emphasises the need to support those living in rural communities who are defined as different and for whom the power of the rural idyll may render such differentness a particularly acute problem." (p. 862)

Study 29

- Tampubolon, G., Subramanian, S.V., Kawachi, I. (2011). Neighbourhood Social Capital and individual Self-Rated Health in Wales. *Health Economics*, 22, 14-21.
 - Survey and analyze neighbourhood SRH data to determine whether is a correlation between Social Capital and SRH outcomes.
 - **Conclusion:** "Neighbourhood social capital appears to be associated with self-rated health in the Welsh setting. Living among trusting neighbours, irrespective of one's own sense of trust, is associated with higher self-reported health. Likewise, smoking is negatively associated with social capital: friendly neighbourhoods and trusting neighbours are marginally beneficial in this respect." (p. 20)

Study 30

- Henning-Smith, C (2014). Quality of Life and Psychological Distress Among Older Adults: The Role of Living Arrangements. *Journal of Applied Gerontology*. 35(1), 39-61.
 - **Sample break out:** 36% living alone, 50% living with a spouse/partner only, 5% living with a spouse/partner and other, and 10% living with others only.
 - "Being older, Black, Native American, and Asian area all associated with worse odds of better quality of life. In contrast, being female, having higher educational attainment, and being further from the federal poverty line are all associate with better quality of life." (p.51)
 - Current policy agenda around "aging-in-place", while the reported preference of most seniors (AARP public Policy Institute 2010), the study shows that the effects of living arrangements are not uniform across the entire older adult population.
 - two thirds of older adults living alone or with others are found to be a vulnerable population. Social support and other resources are needed to make it easier to these adults to manage alone without a partner.
 - Study finds that women fare worse than men in all types of non-partner living arrangements, particularly when living alone or with others (multi-generational / child caring for parent housing.) This indicates that while social support seems accessible, this support does not always have a positive effect.

Study 31

- Avan, B.I, Kirkwood, B. (2010). Role of neighbourhoods in child growth and development: Does 'place' matter? *Social Science & Medicine*, 71, 102-109.
 - Cross-sectional study (maternal interview + child assessment.) 26 communities; 15 rural, 11 urban.
 - **Conclusion:** Socio-economic inequalities were found to be an overarching phenomenon, affecting early child growth and development, implying that community development leads assuredly to improved child outcomes and creates an exemplary cycle of human development. The study suggests that

children living in rural neighbourhoods are particularly deprived, suffering from poorer psychomotor development and nutritional status than their counterparts in urban areas. The rural-urban differences in undernutrition were explained by the lower socio-economic status of families in rural areas.

Study 32

- Samuel, L., et al. (2015). Social Engagement and Chronic Disease Risk Behaviors: The Multi-Ethnic Study of Atherosclerosis. *National Institutes of Health - Public Access*, Feb.(0), 61-66.
 - **Results:** After adjusting for individual characteristics and all social engagement variable, social support was associated with lower smoking prevalence, higher probability of having quit, slightly higher probability of achieving physical activity recommendations.
 - Study focused on the additional predictors of neighborhood social cohesion and social support as associated with physical activity and dietary behaviors.
 - The link between perceived neighborhood cohesion and fruit and vegetable intake is weak.
 - The total association between social engagement and chronic disease is likely greater than the associations found in this study and further work is needed to elucidate those pathways.
 - **Conclusions:** In conclusion, our study found that social support was associated with smoking prevalence and smoking cessation and was more strongly associated with lower prevalence of smoking amongst non-lonely individuals, suggesting an interacting pathway between these two types of social engagement. However, neighborhood social cohesion, a less commonly studied dimension of social engagement, may be more relevant for physical activity and diet and may act via separate pathways.

Study 33

- van der Pers, M., Mulder, C., Steverink, N. (2015). Geographic Proximity of Adult Children and the Well-Being of Older Persons. *Research on Aging*, 37(5), 524-551.
 - **Results:** Previous studies showed mixed evidence as to whether having children is associated with greater well-being at older ages.
 - **Findings:**
 - For patterned men having children is associated with life satisfaction for older persons, more children shows a stronger association than having one child. This result was not true for partnered women, widowed or separated older persons.
 - Geographic proximity - has a positive correlation for separated or widowed men and women. But not for partnered men and women.
 - **Conclusion:** Having children contributes to the well-being of older men with a partner. There is evidence for a positive association between proximity of children and parental well-being, in particular for widowed and separated mothers and for separated fathers. Our findings suggest that close proximity may be a condition under which adult children can significantly add to the well-being of widowed and separated mothers and separated fathers. **NOTE:** The authors encourage future researchers to take into account that in the Netherlands, a substantial part of instrumental support is provided through subsidized services, and the welfare state.

Study 34

- Stewart, M., Reutter, L., Veenstra, G., Love, R., and Raphael, D. (2007). "Left Out": Perspectives on Social Exclusion and Social Isolation in Low-Income Populations.

Canadian Journal of Nursing. 39(3), 209-212

- Purpose and Goals Experiences and perceptions of exclusion/inclusion and isolation/ belonging, and their influence on perceived health and quality of life, have seldom been explored from the perspectives of both low-income and higher-income participants in a single study, and rarely using a mix of qualitative and quantitative methodologies
- **Conclusion:** Income was a consistent predictor of isolation and sense of belonging to the community; low-income people experienced greater isolation and less sense of belonging than higher-income people.

Study 35

- Heritage, Z., Wilkinson, R., Grimaud, O., Pickett, K. (2008). Impact of social ties on self reported health in France: Is everyone affected equally? *BMC Public Health, 8(243)*
 - “If further research confirms this finding, [lower Self-rated health outcomes] it would reinforce calls to promote public health initiatives that aim to strengthen social ties and social cohesion in economically poor neighbourhoods.” (p.6)
 - **Conclusion:** Social isolation is associated with 'less than good' self-rated health. This effect appears to be more important for people on a low income.

Study 36

- Kennedy-Hendricks, A., et al. (2015). Intergenerational Social Networks and Health Behaviors Among Children Living in Public Housing. *American Journal of Public Health, 105(11), 2291-2297.*
 - **Objective:** Determine associations between caretaker’s social networks and children’s health status.
 - **Method:** Surveyed 209 children and their caretakers in Maryland public housing. Used logistic regression models to examine associations between caretaker’s social networks health practices (exercise, diet) and child health outcomes.
 - **Conclusion:** Found that caretaker social networks are independently associated with certain aspects of child health [amount of exercise], suggesting the importance of the broader social environment for low-income children’s health.

Study 37

- Hayward, E., et al. (2015). Linking social and built environmental factors to the health of public housing residents: a focus group study. *BMC Public Health, 15, 1-8.*
 - **Result:** Twenty-eight residents participated in six focus groups. All were African American and the majority were women. Most had lived in public housing for more than 5 years. We identified four themes: public housing’s unhealthy physical environment limits health and wellbeing, the city environment limits opportunities for healthy lifestyle choices, lack of trust in relationships contributes to social isolation, and increased neighborhood social capital could improve wellbeing.
 - **Conclusion:** *Changes in housing and city policies might lead to improved environmental health conditions for public housing residents. Policymakers and researchers may consider promoting community cohesiveness to attempt to empower residents in facilitating neighborhood change.*

3. References

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Author Biographies



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Alicia is the proud mother of a beautiful teenage girl whose diverse interests include basketball, Fritos and opera. Her daughter experiences Mowat-Wilson, a rare genetic syndrome whose effects are widespread and significant.

Alicia has a professional background in landscape and interior design (both commercial and residential). She was the Director of Interior Design for Sienna Architecture, and founder of Grasshopper Garden Design, an independent landscape design firm.

A 2017 graduate from the Institute on Development and Disability Leadership in Neurodevelopmental and Related Disabilities (LEND) program through Oregon Health Sciences University and 2007 graduate of Oregon Partners in Policy Making, she is the founder of Our Home, Inclusive Community Collaborative and is actively creating a mutually supportive, inclusive community for diverse populations named Our Home - Cathedral Park in Portland, OR. She is a member of the Oregon Developmental Disabilities Coalition and currently acts as an advisor to the Portland Public Schools Special Education Advisory Council and to the Oregon Pediatric Improvement Program. Alicia has served as the Program Coordinator for the Northwest Down Syndrome Association Kindergarten Inclusion Cohort, and has made numerous national presentations as a strong advocate for inclusive communities, education and life. Alicia is an active advocate and parent mentor who believes that the inclusion of ALL, regardless of race, color, national origin, sexual orientation, religion, age, disability or gender identity is necessary for a vibrant and healthy community



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Deb believes that creating community and recreating the village is an important way forward for people and the planet. She holds Bachelor degrees in both Theology and Theater and spent over 10 years as a working Actor, Technician and Director touring throughout the Western U.S. Once she felt like settling down, Deb found a place at Portland State University. For the last 20 years Deb has been the Box Office Manager for PSU. To fill in her free time, she formed the Oregon Ticketing and Admissions Association (a supportive community for ticketing professionals) and in 2017 completed a Master's degree in Real Estate Development. With this experience, Deb is now focused on building sustainable and supportive communities.