Testimony before the US Senate Aging Committee

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INTRODUCTION

Thank you, Chairman Collins, Senator Casey, and members of the committee for your interest in social isolation and loneliness and for the opportunity to present testimony today. My name is Julianne Holt-Lunstad, and I am a professor of psychology and neuroscience at Brigham Young University. My research focuses on the influence of our social relationships on physical health outcomes. In my remarks, today, I'll talk about the public health relevance of social isolation and loneliness, including data on prevalence rates, health and mortality risk, and potential risk factors.

Being connected to others socially is widely considered a fundamental human need—crucial to both well-being and survival. Extreme examples show infants in custodial care who lack human contact fail to thrive and often die[1], and indeed social isolation or solitary confinement has been used as a form of punishment. Yet, an increasing portion of the U.S. population now experiences isolation regularly.

PREVALENCE

It is estimated that more than 8 million older adults are affected by isolation[2]. When we consider social connection more broadly--including the extent to which relationships are present in our lives, the extent others can be relied upon, and our satisfaction with them (see table 1)--the prevalence of US adults lacking social connection may be much larger.

- More than a quarter of the US population (28% of older adults) lives alone, over half the U.S. adult population is unmarried, and 1 in 5 have never married[3].
- The divorce rate in the US is around 40% of first marriages and 70% for remarriages[4].
- Among married couples, 3 in 10 relationships are severely distressed[5].
- More than a third of U.S. adults over age 60 experience frequent or intense loneliness—higher than the prevalence of merely living alone[6].
- The majority of American adults do not participate in social groups[7].

Thus, there is evidence that a significant portion of the population, and older adults in particular, may be socially isolated.

There is also evidence that isolation (or social disconnection) is increasing.

- The average size of social networks has declined by one-third since 1985, social networks have become less diverse, and they are less likely to include non-family[7].
- Average household size has decreased and there has been 10% increase in those living alone[4].
- Census data also reveal trends in decreased marriage rates, fewer children per household, and increased rates of childlessness[4].

Taken together with an aging population, smaller families and greater mobility reduces the ability to draw upon familial sources of support in old age[8,9]. Given that the incidence of loneliness is known to increase with age[10], and that social (particularly friendship) networks

shrink with age[11], the prevalence of loneliness is estimated to increase with increased population aging. These trends suggest that Americans are becoming less socially connected.

EPIDEMIOLOGICAL EVIDENCE OF PUBLIC HEALTH RELEVANCE

To estimate the influence this has on longevity, or risk for premature mortality, my colleagues and I conducted 2 meta-analyses[12,13]. The first meta-analysis examined the influence of social connections, including a variety of indicators (see table 1). Cumulative evidence from 148 different studies, including over 300,000 participants revealed that greater social connection is associated with a 50% reduced risk of early death[12]. The second meta-analysis examined deficits in social connection (social isolation, loneliness, living alone). Cumulative evidence from 70 different studies[13], including over 3.4 million participants indicates that each have a significant and equivalent effect on risk for mortality—that exceeds the risk associated with obesity[14]. These findings also account for potential alternative explanations (e.g., age and initial health status), and thus also rule out reverse causality. Together, these data demonstrate that social *dis*connection is indeed a severe problem.

The effect of social relationships can be benchmarked against other well-established lifestyle risk factors. As shown in Figure 1a, the magnitude of effect of social connection on mortality risk is comparable, and in many cases, exceeds that of other well-accepted risk factors, including smoking up to 15 cigarettes per day, obesity, and air pollution[12]. Prevalence rates, or the proportion of the population affected, are also comparable with well-established risk factors (Figure 1b). Despites some variation across social indicators, there is a consistent and significant effect on mortality risk.

Social isolation has also been linked to a variety of mental and physical health outcomes. For example, those who are isolated are at increased risk for depression, cognitive decline, and dementia[15]. There is also substantial evidence that social relationships can influence health related behaviors such as medication/treatment adherence[16], and have a direct influence on health-relevant physiology such as blood pressure, immune functioning, and inflammation[17,18].

RISK FACTORS

Can we identify those who are at greatest risk? It is important to note that the overall effect of lacking social connection on risk for mortality can be applied quite broadly--robust effects were found across age, gender, health status, and cause of death—and the prevalence occurs across age. Further, the protective effect of social connection or conversely the risk of disconnection is continuous--there is evidence that for every level of increase in isolation there is an increase in risk[19]. Nevertheless, there are factors that may contribute to increased risk.

Risk factors include: living alone, being unmarried (single, divorced, widowed), no participation in social groups, fewer friends, strained relationships[12]. Retirement, and physical impairments (e.g., mobility, hearing loss) may also increase risk for social isolation.[2]

Social Isolation and Loneliness are particularly important among older adults. Chronic exposure to either protective or risk factors will be more pronounced as individuals age—thus, we are more likely to see the effects of lacking social connection in older adults. Further, there are a number of important life transitions among older adults that may result in disruptions or decreases in social connection (e.g., retirement, widowhood, children leaving home, age-related health problems). A growing body of research shows that health problems in adulthood and older age, stem from conditions earlier in life, suggesting the importance of preventative efforts[9].

CONCLUSION

There is robust evidence that lacking social connection/isolation significantly increases risk for premature mortality, and the magnitude of the risk exceeds many leading health indicators. The World Health Organization (WHO) explicitly recognizes the importance of social connections[20]. Social isolation influences a significant portion of the US adult population and there is evidence the prevalence rates are increasing. With an increasing aging population, the effect on public health is only anticipated to increase. Indeed, many nations around the world now suggest we are facing a "loneliness epidemic" [21-24]. The challenge we face now is what can be done about it.

I am very pleased to see the committee has recognized and is bringing attention to this important issue. I am happy to assist in advancing an agenda to address social isolation and loneliness among older adults. Thank you again for the opportunity to comment and I welcome your questions.

Table 1. Defining Social Connection[25]

Social Connection	
The extent to which an individual is socially connected takes a multifactorial approach including (1) connections to others via the existence of relationships and their roles; (2) a sense of connection that results from actual or perceived support or inclusion; and (3) the sense of connection to others that is based on positive and negative qualities.	
Type of Measure	**Description**
(1) Structural	***The existence and interconnections among differing social relationships and roles***
Marital Status	Married vs. single, separated, divorced, widowed
Social Networks	Network density or size, number of social contacts
Social Integration	Participation in a broad range of social relationships; including active engagement in a variety of social activities or relationships, and a sense of communality and identification with one's social roles.
Living Alone	Living alone vs. living with others
Social Isolation	Pervasive lack of social contact or communication, participation in social activities, or confidant
(2) Functional	***Functions provided or perceived to be available by social relationships***
Received support	Self-reported receipt of emotional, informational, tangible, or belonging support.
Perceptions of social support	Perception of availability of emotional, informational, tangible, or belonging support if needed.
Perception of loneliness	Feelings of isolation, disconnectedness, and not belonging
(3) Quality	***The positive and negative aspects of social relationships***
Marital Quality	Subjective ratings of satisfaction, adjustment, cohesion in couples
Relationship Strain	Subjective ratings of conflict, distress, or ambivalence
Social inclusion/ exclusion	Feelings of belonging or rejection from others.

References:

1. UNICEF (1997) Children at risk in Central and Eastern Europe: Perils and promises. Florence, Italy: United Nations Children's Fund, International Child Development Centre. UNICEF1997Children at risk in Central and Eastern Europe: Perils and promises. Florence, Italy United Nations Children's Fund, International Child Development Centre
2. https://connect2affect.org/about-isolation/
3. Jonathan Vespa, Jamie M. Lewis, and Rose M. Kreider, 2013, America's Families and Living Arrangements: 2012, Current Population Reports, P20-570, U.S. Census Bureau, Washington, DC.
4. United States Census Bureau (2011). Changing American Households.
5. Whisman, M. A., Beach, S. R. H., & Snyder, D. K. (2008). Is marital discord taxonic and can taxonic status be assessed reliably? Results from a national, representative sample of married couples. *Journal of Consulting and Clinical Psychology, 76*(5), 745-755.
6. Perissinotto, C. M., Stijacic Cenzer, I., & Covinsky, K. E. (2012). Loneliness in older persons: a predictor of functional decline and death. *Archives Of Internal Medicine, 172*(14), 1078-1083. doi: 10.1001/archinternmed.2012.1993
7. Pew Research Center. (2009). Social Isolation and New Technology. Pew Research Center. Nov 4, 2009.
8. Rook, K. S. (2009). Gaps in social support resources in later life: An adaptational challenge in need of further research. Journal Of Social And Personal Relationships, 26(1), 103-112.
9. World Health Organization (2011). "Global Health and Aging." Available at http://www.who.int/ageing/publications/global_health.pdf
10. Dykstra, P. A., van Tilburg, T. G., & de Jong Gierveld, J. (2005). Changes in Older Adult Loneliness: Results From a Seven-Year Longitudinal Study. *Research on Aging, 27*(6), 725-747. doi: 10.1177/0164027505279712
11. Wrzus, C., Wagner, J., Hänel, M., & Neyer, F. J. (2013). Social Network Changes and Life Events Across the Life Span: A Meta-Analysis. *Psychological Bulletin*, *139*(1), 53-80.
12. Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: a meta-analytic review. *Plos Medicine, 7*(7), e1000316-e1000316. doi: 10.1371/journal.pmed.1000316
13. Holt-Lunstad, J, Smith, T.B., *Baker, M., *Harris, T., & *Stephenson, D. (2015). Loneliness and
    Social Isolation as Risk Factors for Mortality: A Meta-Analytic Review. *Perspectives on Psychological Science*, 10 (2), 227-237. doi: 10.1177/1745691614568352
14. Flegal, K.M., Kit, B.K., Orpana, H., & Graubard, B.I. (2013). Association of all-cause mortality with overweight and obesity using standard body mass index categories: a systematic review and meta-analysis. *JAMA.* 309(1):71-82. doi: 10.1001/jama.2012.113905.
15. Global Council on Brain Health (2017). "The Brain and Social Connectedness: GCBH Recommendations on Social Engagement and Brain Health." Available at www.GlobalCouncilOnBrainHealth.org
16. DiMatteo, M. R. (2004). Social Support and Patient Adherence to Medical Treatment: A Meta-Analysis. *Health Psychology, 23*(2), 207-218. doi: 10.1037/0278-6133.23.2.207

17. Uchino, B. N. (2006). Social Support and Health: A Review of Physiological Processes Potentially Underlying Links to Disease Outcomes. *Journal of Behavioral Medicine, 29*(4), 377-387. doi: 10.1007/s10865-006-9056-5
18. Hostinar, C. E., Sullivan, R. M., & Gunnar, M. R. (2014). Psychobiological mechanisms underlying the social buffering of the hypothalamic–pituitary–adrenocortical axis: A review of animal models and human studies across development. Psychological Bulletin, 140(1), 256-282. doi:10.1037/a0032671
19. Yang, Y. C., Boen, C., Gerken, K., Li, T., Schorpp, K., & Harris, K. M. (2016). Social relationships and physiological determinants of longevity across the human life span. *Proceedings of the National Academy of Sciences, 113*, 578-583.
20. World Health Organization (n.d.). *The determinants of health.* Retrieved from http://www.who.int/hia/evidence/doh/en/
21. http://www.campaigntoendloneliness.org/loneliness-research/
22. http://www.spiegel.de/international/germany/germany-faces-epidemic-of-lonely-and-isolated-seniors-a-876635.html
23. https://startsat60.com/health/new-survey-reveals-australias-loneliness-epidemic
24. http://www.huffingtonpost.com.au/tania-de-jong/loneliness-is-the-global-epidemic-of-our-times/
25. Holt-Lunstad, J, Robles, T. & Sbarra, D. (in press). Advancing social connection as a public health priority *American Psychologist*.