

Loneliness and Social Isolation: Evidence Based Findings and Programming Ideas

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Acknowledgment

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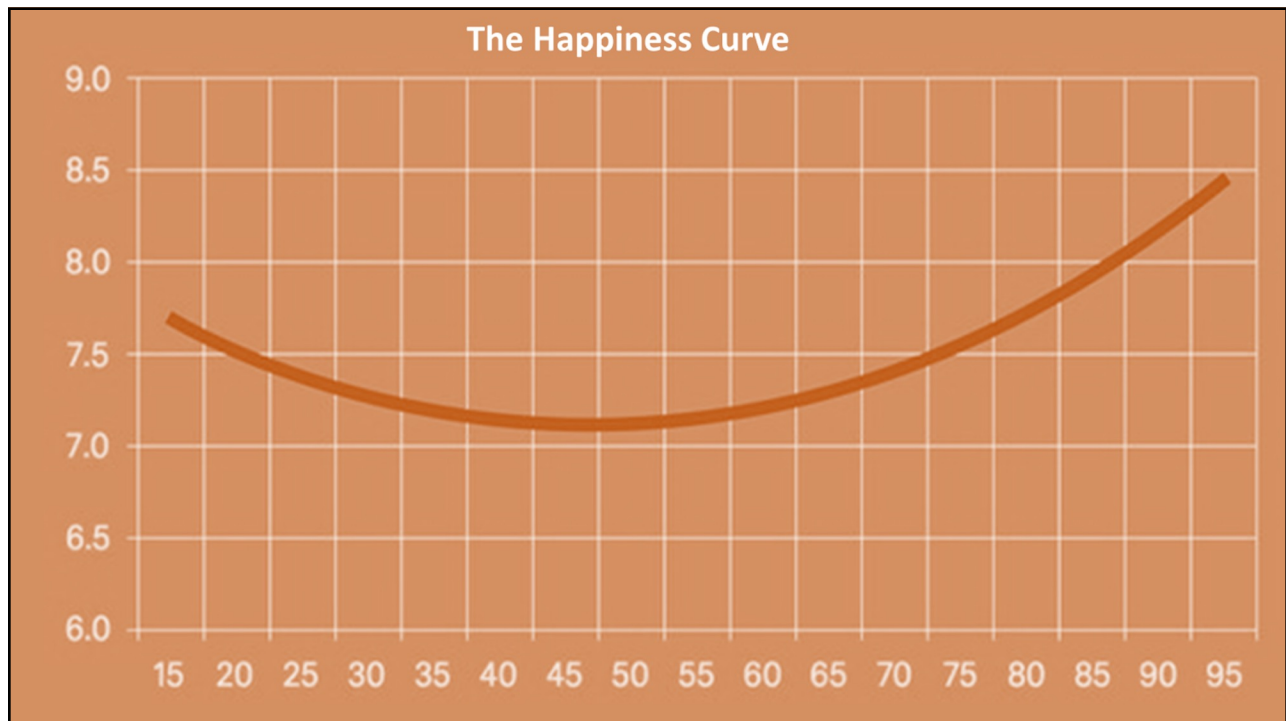


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Outline

- Centering on residents and clients
- Brain health and quality of life
- Loneliness and social isolation
 - Impact
 - Risk factors
- Practical suggestions
 - Culture
 - Education
 - Programming ideas
 - Motivating residents

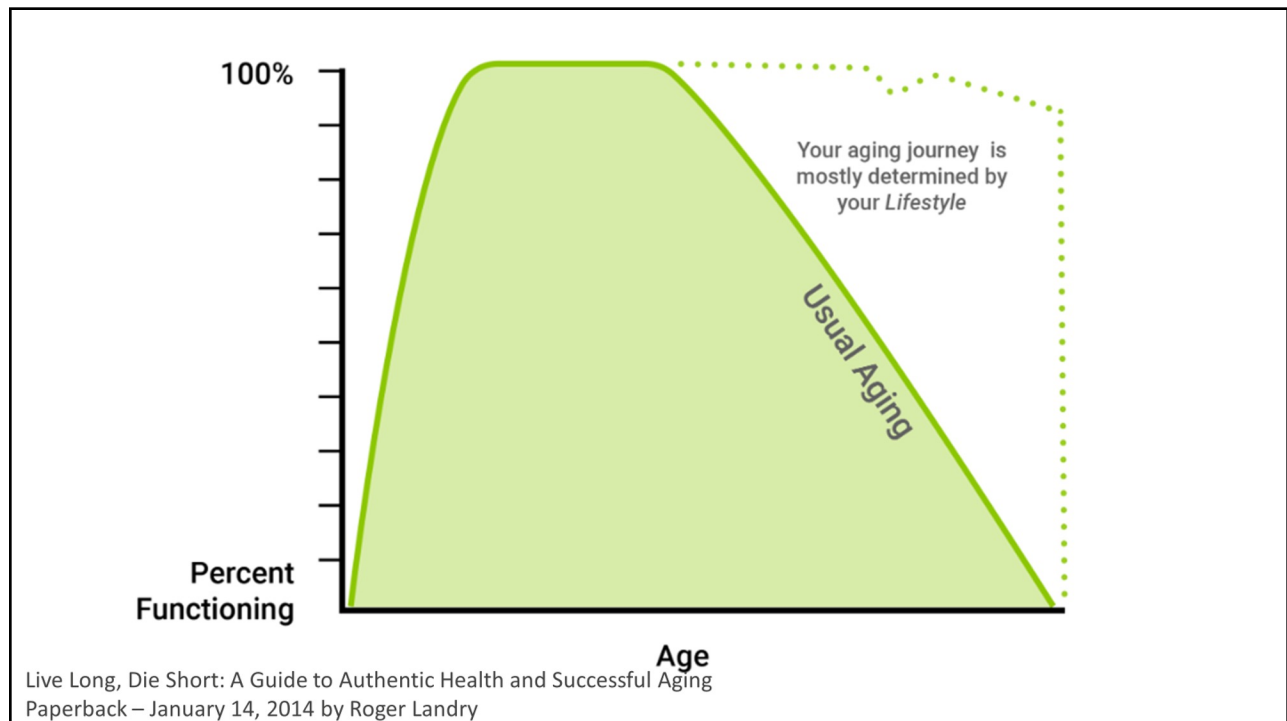
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The pursuit of
meaning and
purpose is a basic
human right

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Many controllable factors impact brain health and risk of dementia

- Physical exercise
- Cognitive stimulation
- Stress and neuroticism
- Sleep
- Diabetes and insulin resistance
- Yoga
- Tai Chi
- High Intensity Interval Training (HIIT)
- Dance
- Dual tasking
- Mindfulness training and Meditation
- Alcohol
- Hearing impairments
- Social support and engagement
- Loneliness

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A 2022 Meta-Analysis of 44 Published Studies on the Effects of Online Cognitive Training

- Researchers combined data from 44 studies that used participants with mild cognitive impairment or early-stage dementia
- Results showed improvements in executive functioning (attention) and making new memories
- Results also showed reductions in depression
- Programs that lasted for at least 6 weeks had better results

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What type of exercise is best?

- Researchers reported that either once-a-week or twice-a-week resistance training sessions for 12 months led to improvements in older adults' cognition and attention.
 - 11% improvement for once-a-week
 - 13% improvement for twice-a-week

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Strength or Resistance Training

Then, researchers found that twice a week resistance training in 70- to 80-year-old women, with Mild Cognitive Impairment, led to significant improvement in attention and memory ability.

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Yoga can improve cognition

In a meta-analysis that combined data from 15 studies assessing the effects of yoga on cognition. The improvements were significant and benefitted executive functioning.

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Why might Yoga help?

- Increased attention and focus
- Reduced stress
- Physical exercise (both resistance and aerobic)

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Literature Review on the Effectiveness and Required Dosages of Cognitive Interventions for Older Adults

Robert G. Wunningham, PhD, Alexis J. Pacheco

Objective: The purpose of this article is to review interventions that have been shown to improve cognitive abilities in older adults, including aerobic training, resistance training, yoga, tai chi, dual tasking, and meditation. The purpose of this article is to identify findings that can lead to recommendations regarding optimal dosages of the above interventions.

Methods: This literature review relied heavily on meta-analyses that combined data from randomized controlled studies in order to identify interventions that reliably produce meaningful improvements in cognition. In addition, the meta-analyses were used to find dosage recommendations that appeared when similar studies were analyzed.

Conclusions: There is ample evidence that various physical exercise and cognitive stimulation interventions can lead to meaningful improvements in cognition. The results often vary as a function of the participant's cognitive abilities and presence of cognitive impairment or dementia. In many cases, it is possible to begin making recommendations in terms of the length of sessions and the length of interventions for various populations.

Key words: cognitive stimulation, dosage, dose-response, dual tasking, executive functioning, global cognition, mindfulness, physical exercise, tai chi, transfer, yoga

INTRODUCTION

Improving cognitive health

According to the World Health Organization, people throughout the world are generally living longer and older adults will continue to make up a larger proportion of the population.¹ Globally the number of people 80 years or older is expected to triple between 2020 and 2050, and the incidence of dementia among older adults is also expected to triple, over the next 50 years.¹⁻³ Exploring safer, non-invasive, and non-pharmacological interventions for both ameliorating symptoms of cognitive decline and increasing cognitive reserve is critical in maximizing well-being, life satisfaction, and independence for older adults including those with mild cognitive impairment (MCI) and dementia. Therefore, it is critical to assess factors affecting the efficacy of interventions designed to maximize cognition and quality of life.

Older adults experiencing MCI develop dementia at an annual rate of 10-15% compared to a 1-2% rate in cognitively healthy older adults.^{2,4} Cognitive interventions may

not only improve cognition among older adults but may also correspondingly serve as a buffer for healthy older adults and reduce their risk of developing MCI and dementia. Given that dementia and cognitive impairments reduce independence and the ability to successfully complete Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs),⁵ it is imperative that reliable interventions are found to optimize cognitive abilities in older adults so they can manage their homes, be more independent, and experience a higher quality of life.

In this paper, we will review the myriad of non-pharmacological interventions that have been shown to lead to improvements in older adults' cognition. We will look at the effectiveness of these interventions, with a heavy reliance on meta-analytic studies to allow us to assess the meaningfulness of reported improvements and effect sizes. Many studies have found that it is possible to improve cognitive ability in older adults, but less is known about the dose-response relationship.^{6,7} Given the paucity of evidence on the recommended dosages (e.g., frequency, intensity, and duration) of interventions,⁸ it is important to begin with a review of the evidence regarding the dosage needed for optimal outcomes. This will be followed by a review of relevant factors that are person-specific (e.g., presence of dementia and age) and intervention-specific, if those factors appear to impact the effectiveness of interventions.

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Who benefits the most, in terms of cognition?

- Cognitive training
 - People with mild cognitive impairment and early-stage dementia seem to benefit the most. People with more advanced dementia can see improvements to quality of life but probably not cognition.
 - Optimal session length 30-60 minutes, a few times a week, for at least 6 weeks.
 - It is easier to document improvements in older adults relative to middle aged and younger adults.

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Who benefits the most, in terms of cognition?

- Physical activity
 - Older adults tend to have greater improvements in cognition.
 - Resistance training seems to be one of the best physical exercises, in terms of cognition.
 - People with lower baseline physical fitness levels seem to experience the greatest improvements.

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Our fitness and cognitive programming can also reduce loneliness and social isolation

Aging & Mental Health, November 2007; 11(6): 716–721



A cognitive intervention to enhance institutionalized older adults' social support networks and decrease loneliness

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(Received 11 April 2005; accepted 9 November 2006)

Abstract

Nearly all older adults experience social losses, which can disrupt their social support networks and impair their quality of life. Events such as retirement, an inability to drive, death of a spouse and/or close life-long friends, or moving to an elder care facility may negatively affect the quality of older adults' social support networks. Low levels of perceived social support are associated with increased depression, impaired immune functioning and reduced life expectancy. Moreover, social interactions can be cognitively stimulating and may help older adults preserve their cognitive abilities. In the present study, institutionalized older adults were exposed to either a cognitive enhancement programme designed to enhance social networks or a control group. Measures of perceived social support and loneliness were administered before and after a 3-month, group-based intervention. There was a significant interaction between group and time. Those who did not participate in the intervention experienced a decrease in perceived social support and an increase in perceived loneliness. Participants in the intervention group stayed the same on the above measures. Helping older adults increase or maintain the quality of their social networks may lead to enhanced cognitive functioning, decreased depression and improved quality of life. Recommendations to help assisted living facilities, nursing homes, retirement communities and senior centres develop social and cognitive interventions are provided.

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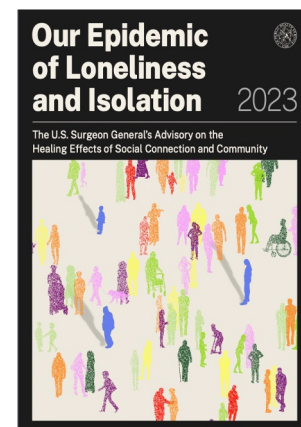
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2023 Surgeon General's Health Advisory



Dr. Vivek H. Murthy
19th and 21st Surgeon General
of the United States

Dr. Murthy, U.S. Surgeon General, recently issued a health advisory due to the rates and impact of loneliness. He said that *"Millions of people in America are struggling in the shadows, and that's not right...It's like hunger or thirst. It's a feeling the body sends us when something we need for survival is missing."*



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Loneliness vs Isolation

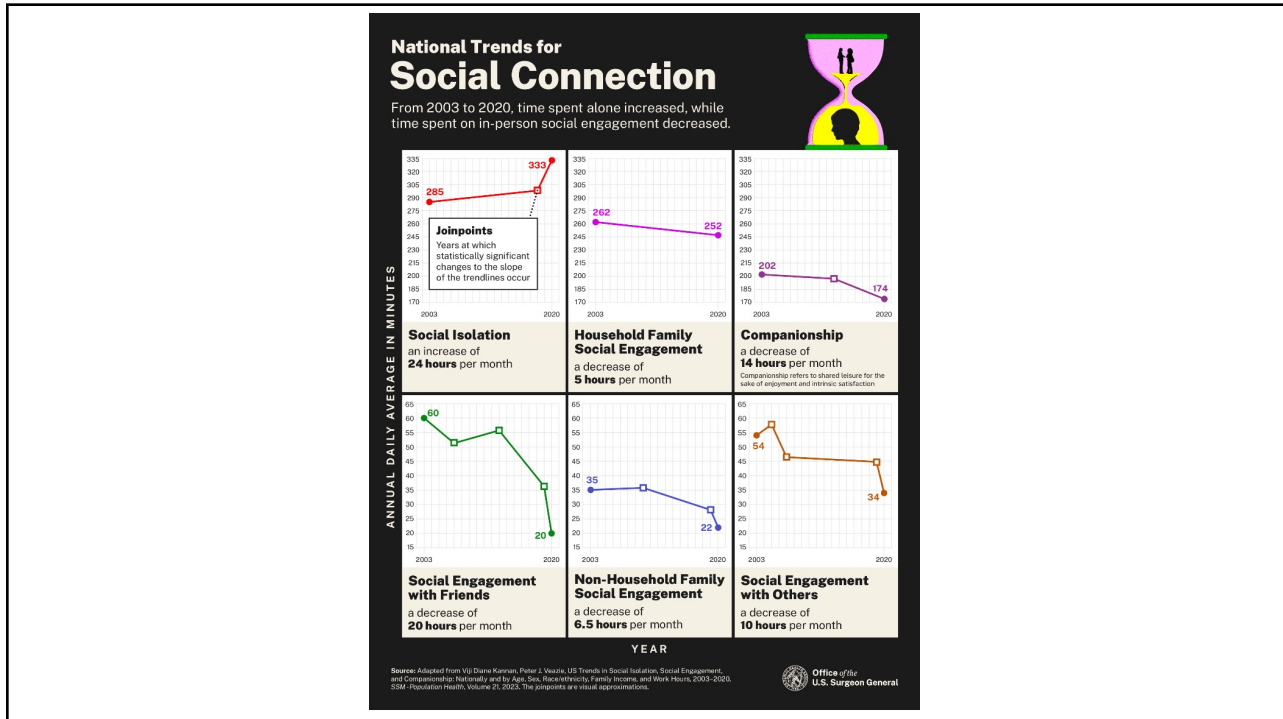
- Loneliness is a subjective feeling.
 - Some people don't feel lonely even if they spend a lot of time alone.
 - Loneliness can be difficult to define
 - Perceived emptiness and sadness
 - Perceived lack of meaningful and or intimate social contact
 - Perceived lack of purpose or being needed in society or the community
 - Existential loneliness – feeling disconnected from the world
- Social isolation is objective.
 - Usually measured as being in a room by oneself
 - In most studies, you can be considered socially isolated, even if you talk on the phone, text people, or are in remote meetings throughout the day

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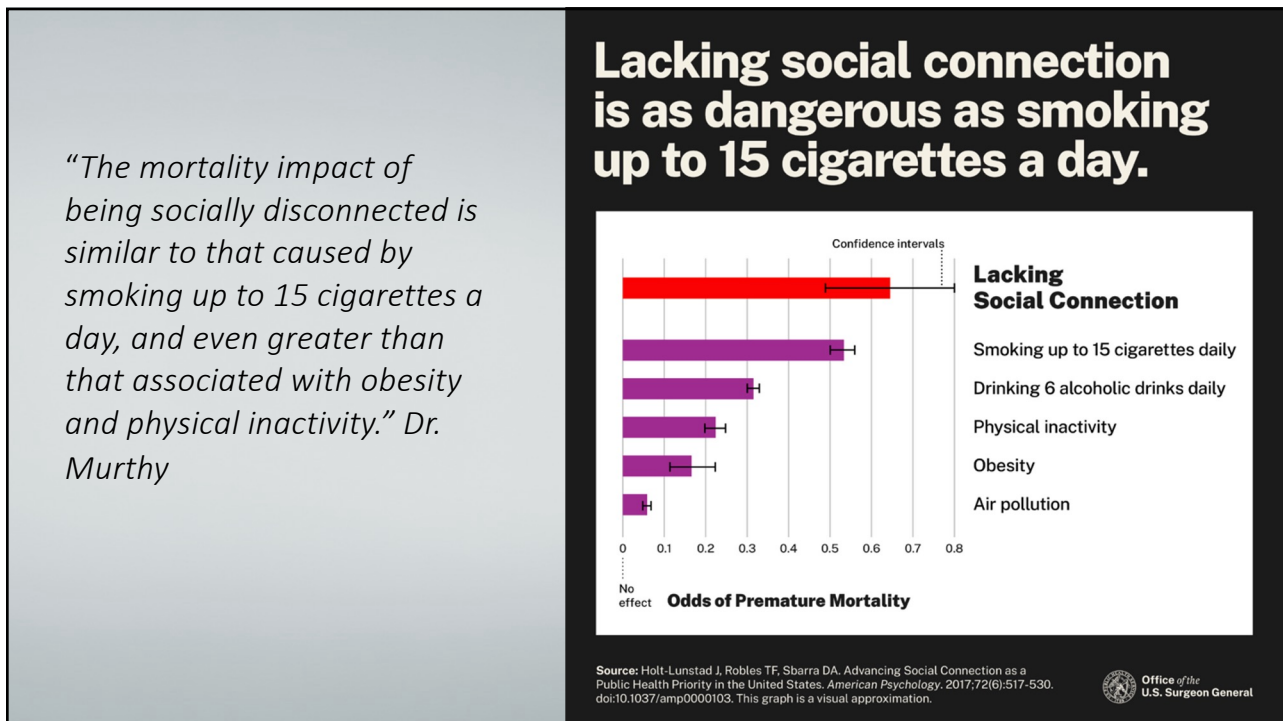
Loneliness in the United States

- Even before the pandemic, nearly 1 in 2 Americans reported feeling lonely.
- In 1990, only 27% of Americans reported having three or fewer friends. In 2021, 49% of Americans reported having three or fewer friends.
- In 2022, researchers found that only 39% of people surveyed reported they were very connected to others.

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Physical Health Impacts of Loneliness

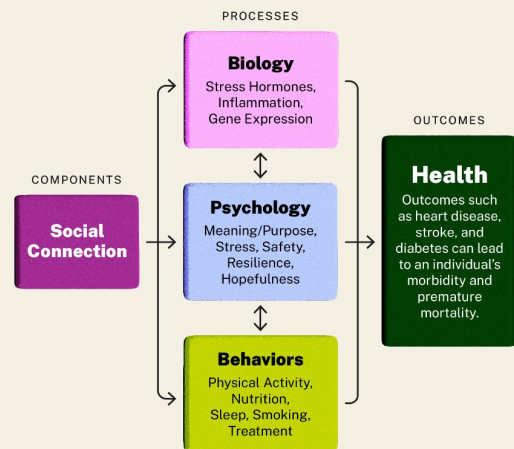
Social isolation, poor social support networks and loneliness are associated with:

- 29% increase in heart disease
- 32% increase risk of stroke
- Increased risk of dying from a cardiovascular event
- Much poorer outcomes after a serious health event
- Increased risk of developing Type 2 diabetes
- Weaker immune system
- As much as 50% increase risk of developing dementia
- Increased likelihood of developing clinical depression and/or anxiety
- Increased risk of suicide

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How Does Social Connection Influence Health?

Social connection influences health through **three principal pathways**: biology, psychology, and behavior.



Source: Holt-Lunstad J. The Major Health Implications of Social Connection. Current Directions in Psychological Science. 2021;30(3):251-259.

Office of the
U.S. Surgeon General

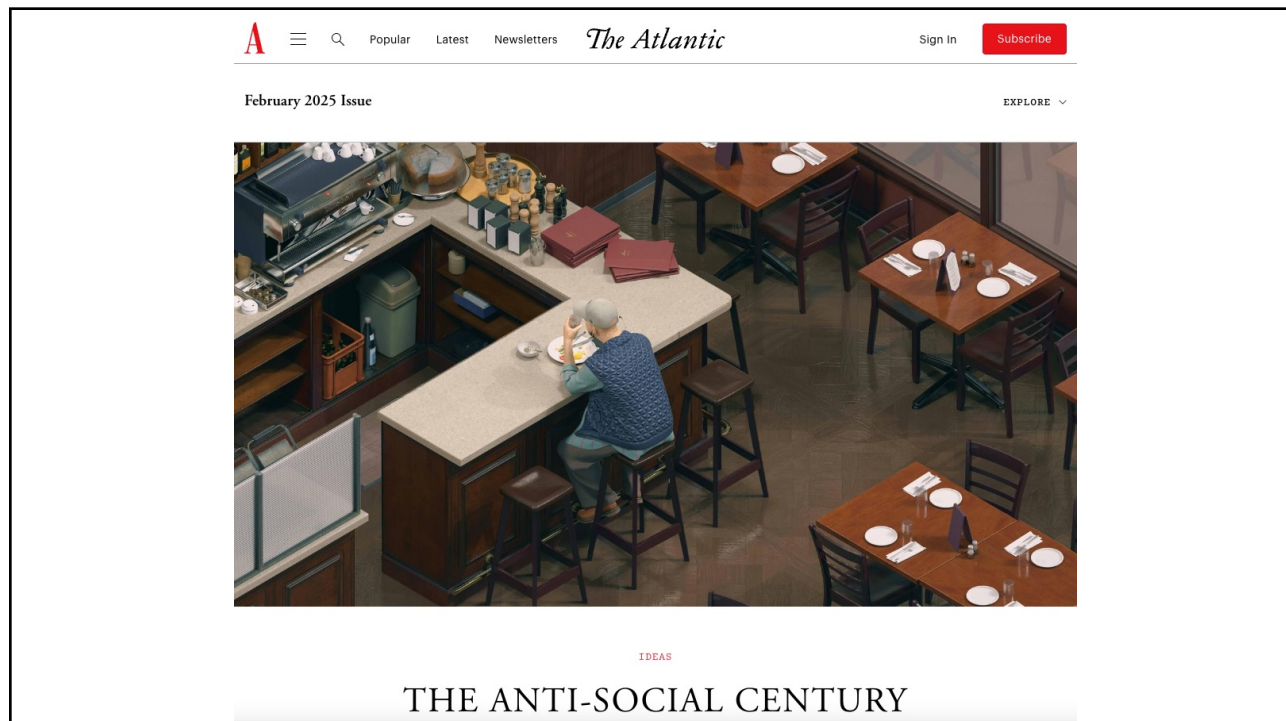
Biology: cortisol, inflammation, oxidative stress, gut-microbiome, less oxytocin

Psychology: coping, meaning, purpose, stress, mental health

Behavior: diet, physical activity, sleep, treatment adherence

Instrumental Social Support

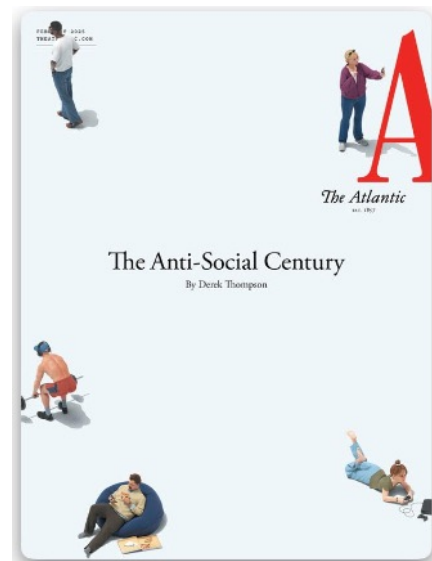
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Why are we seeing such dramatic increases in loneliness and social isolation?

- Home entertainment
 - “Typical American adult buys about three movie tickets a year” but watches “almost 19 hours of television, the equivalent of roughly eight movies, on a weekly basis”
- Food and product delivery
 - “In 2023, 74 percent of all restaurant traffic came from “off premises” customers...up from 61 percent before COVID”
 - “Solo dining increased by 29 percent in just the past two years”



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Why are we seeing such dramatic increases in loneliness and social isolation?

- People working multiple jobs
- A feedback loop: less social interaction leads to depression and social anxiety, which leads to less social interaction...
- Weakening institutions
 - Reduced church attendance and affiliation in the U.S.
 - Reduced participation in community and civic groups
- Increased geographical mobility
- Growing cultural and political polarization is fueling mistrust, isolation and intolerance

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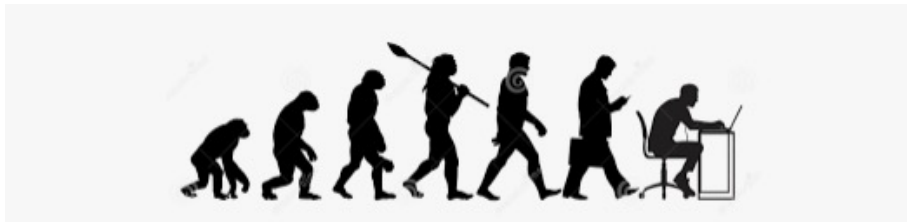
Many people can engage in life remotely

- More work from home opportunities
- More entertainment opportunities in our homes
- Food delivery
- Online shopping
- More online socializing
- Some people are even worshipping and going to church online

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Why are we seeing such dramatic increases in loneliness and social isolation?

- Social media
 - Reduced quality of in-person interactions between family members and friends
 - Increased distractions while interacting in-person
 - Online social interactions can be much more superficial and less satisfying
 - Feelings of inadequacy when we perceive others to have more exciting lives
 - Online echo chambers can exasperate polarization in our society



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Loneliness and Older Adults

- Are older adults and younger adults experiencing social isolation and loneliness in the same ways?
 - Loneliness among older adults has increased since the start of the pandemic but that may not be as true for younger people.
 - Younger adults may be fulfilling more social needs online (maybe that is why they are not getting drivers licenses at the rate seen decades ago)
- We know that older adults who are the most socially engaged are less likely to develop dementia.
- Social engagement provides meaningful cognitive stimulation, which also might explain the correlation between hearing impairment and dementia risk.

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Risk factors for loneliness or social isolation

- Sensory impairment
- Retirement
- Death of loved ones
- Worsening health conditions
- Depression
- Anxiety
- Lower income
- Living alone
- Divorce
- Cognitive impairment
- Discrimination
- Living in a rural area
- Lack of transportation
- Language barriers

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Social losses are inevitable if we live long enough

- Death of a spouse
- Death of close life-long friends
- Health problems may affect socialization
- Uncorrected hearing impairments can make socializing very difficult
- Inability to drive
- Move away from friends
- Less likely to have social contact through work

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N = I never feel this way
R = I rarely feel this way
S = I sometimes feel this way
O = I often feel this way

N = 1 points
R = 2 points
S = 3 points
O = 4 point

If reverse scored (1, 5, 6, 9, 10, 15, 16, 19, 20)
N = 4 points
R = 3 points
S = 2 points
O = 1 point

UCLA Loneliness Scale

Scale:
INSTRUCTIONS: Indicate how often each of the statements below is descriptive of you.

Statement	Never	Rarely	Sometimes	Often
1. I feel in tune with the people around me	1	2	3	4
2. I lack companionship	1	2	3	4
3. There is no one I can turn to	1	2	3	4
4. I do not feel alone	1	2	3	4
5. I feel part of a group of friends	1	2	3	4
6. I have a lot in common with the people around me	1	2	3	4
7. I am no longer close to anyone	1	2	3	4
8. My interests and ideas are not shared by those around me	1	2	3	4
9. I am an outgoing person	1	2	3	4
10. There are people I feel close to	1	2	3	4
11. I feel left out	1	2	3	4
12. My social relationships are superficial	1	2	3	4
13. No one really knows me well	1	2	3	4
14. I feel isolated from others	1	2	3	4
15. I can find companionship when I want it	1	2	3	4
16. There are people who really understand me	1	2	3	4
17. I am unhappy being so withdrawn	1	2	3	4
18. People are around me but not with me	1	2	3	4
19. There are people I can talk to	1	2	3	4
20. There are people I can turn to	1	2	3	4

Scoring:
Items 1, 5, 6, 9, 10, 15, 16, 19, 20 are all reverse scored.
Keep scoring continuous.

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UCLA Loneliness Scale

The total score ranges from 20 to 80. Higher scores indicate higher loneliness. The most commonly used categorization is the following:

- 20–34 denotes a low degree of loneliness
- 35–49 a moderate degree of loneliness
- 50–64 a moderately high degree of loneliness
- 65–80 a high degree of loneliness.

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Practical Considerations for Reducing Loneliness and Social Isolation

- Affinity groups can help people make connections
 - Former teachers
 - Military veterans
 - College alumni
 - Art appreciation
 - Garden club
 - Bridge players
 - Car enthusiasts
 - World travelers



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Practical Considerations for Reducing Loneliness and Social Isolation

- Try to facilitate groups events
 - Group exercise or walking with others
 - Celebrations and holidays
 - Sightseeing trips
 - Creative arts
 - Attending cultural events
 - Performing arts events
 - Games or brain exercise classes



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Practical Considerations for Reducing Loneliness and Social Isolation

- Get to know your neighbor programming
 - treasure hunts
 - new neighbor notes
- Adult day centers
- Having a pet
- Bereavement support groups



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Practical Considerations for Reducing Loneliness and Social Isolation

- Group-based mindfulness classes
- Life stories
- Intergenerational programming
- Resident governance and ambassadors
- Volunteer opportunities
- Hearing aids



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Benefits of intergenerational programming identified in previous studies.

1. Give older adults an opportunity to engage in more meaningful and purposeful activities to help others (and themselves).
2. Provide a way of transmitting wisdom and knowledge from the older adults to the younger people.
3. Provide an opportunity for the younger people to share information about their lives and experiences with older adults.
4. Reduce negative stereotypes that younger people might have, if they haven't spent much time with older adults.

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Benefits of intergenerational programming identified in previous studies.

5. Provide cognitive stimulation for older adults (e.g., learning new things, problem solving, and challenging oneself in new areas).
6. Supplement learning opportunities for resource impoverished schools.
7. Provide an alternative way to care for children when parents are working.
8. Fully realize the social capital of older adults (and their historical roles in transmitting knowledge and being a part of a multigenerational unit).
9. Better school performance for children.

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Benefits of intergenerational programming identified in previous studies.

10. Improved self-management skills in school.
11. Mental health benefits for both (improved confidence, increased self efficacy, and reduced anxiety).
12. Increased life satisfaction for older adults.
13. Increased social interaction for older adults.

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Intergenerational Ideas

1. Older adults reading to children
2. Children reading to older adults
2. Tutoring
3. Learning technology skills
4. Helping in the library
5. Conversation about personal histories
6. Sharing meals
7. University partnerships



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One intergenerational program facilitates cooking experiences.



FIGURE 1 "What Could Be the Ingredients in a Granola Bar?"

From: Norouzi N, Chen J, Jarrott S. Intergenerational explorations: Where everyone has a purpose. *Journal Of Intergenerational Relationships* [serial online]. July 2015;13(3):260-265

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Another program facilitates cooking experiences with older students and older adults, at a senior center.



Figure 1. Students and elders receive a lesson on food preparation and knife skills from a professional chef in the senior center teaching kitchen.

From: Dreibelbis T, George D. An intergenerational teaching kitchen: Reimagining a senior center as a shared site for medical students and elders enrolled in a culinary medicine course. *Journal Of Intergenerational Relationships* [serial online]. April 2017;15(2):174-180. © 2026, Dr. Rob Winningham All Rights Reserved

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Ideas for Activities

- 7. Gardening
- 8. Dancing
- 9. Painting
- 10. Doing simple science experiments with children

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One intergenerational program facilitates simple science experiments.

Intergenerational Explorations

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FIGURE 2 “How Is the Inflation of Your Balloon With Baking Soda and Vinegar Similar to the Hot Air Balloon?”

From: Norouzi N, Chen J, Jarrott S. Intergenerational explorations: Where everyone has a purpose. *Journal Of Intergenerational Relationships* [serial online]. July 2015;13(3):260-265

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Motivating Residents to Engage

- Make sure people know about the benefits of social engagement (and related brain health topics).
- Make sure people know about the benefits of social engagement and the risks associated with loneliness and social isolation (and related brain health topics).

Social isolation, poor social support networks and loneliness are associated with:

- 29% increase in heart disease
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- Increased risk of developing Type 2 diabetes
- Weaker immune system
- As much as 50% increase risk of developing dementia
- Increased likelihood of developing clinical depression and/or anxiety
- Increased risk of suicide

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There is hope

People are becoming more aware of the importance of maintaining quality social connections.

- The Surgeon General's Health Advisory
- The Atlantic article
- Recognition that a healthy lifestyle requires social engagement
- Recognition of the impact of technology (positive and negative)

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There is hope

Health professionals have been increasingly aware of the impacts of strong social support networks.

- We can continue this trajectory to expand awareness
- Health professional can screen for and identify people who are experiencing loneliness
- Health professional can help initiate interventions and support systems

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There is hope

- We can expand awareness of and conversations about loneliness
 - Healthcare
 - Educational setting
 - Give parents the tools they need to teach their children good social habits
 - Promote civic organizations
 - Model behavior that supports connections and community
- There may also be public policy approaches
 - Promote both public health and the economy
 - Housing and public transportation
 - Green spaces

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There is hope

- We are increasingly aware of the impacts of uncorrected hearing deficits on social isolation and loneliness
- We may see progress in the social arena for young people as schools are quickly moving to ban phones

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There is hope

- We can strengthen our local communities
 - Design our built environment to promote wellness and social engagement
 - Invest in local institutions that bring people together
- We can build a culture of connection
 - Cultivate values of service, respect, kindness and tolerance
 - Support our community and civic organizations

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Summary and contact information

- Cognitive and physical activity programs are good for brain health and facilitate social engagement
 - Our society is experiencing a loneliness epidemic, but we have tools and the knowledge to combat it
 - Person-centered approach is critical, as social needs vary
 - We all have a role to play in maximizing social well being of residents and fellow community members
-
- Email: rob.winningham@gmail.com
 - LinkedIn: <https://www.linkedin.com/in/memory/>

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