

# Boosting Emotional Well Being in Older Adults: The Role of Hearing Health Care

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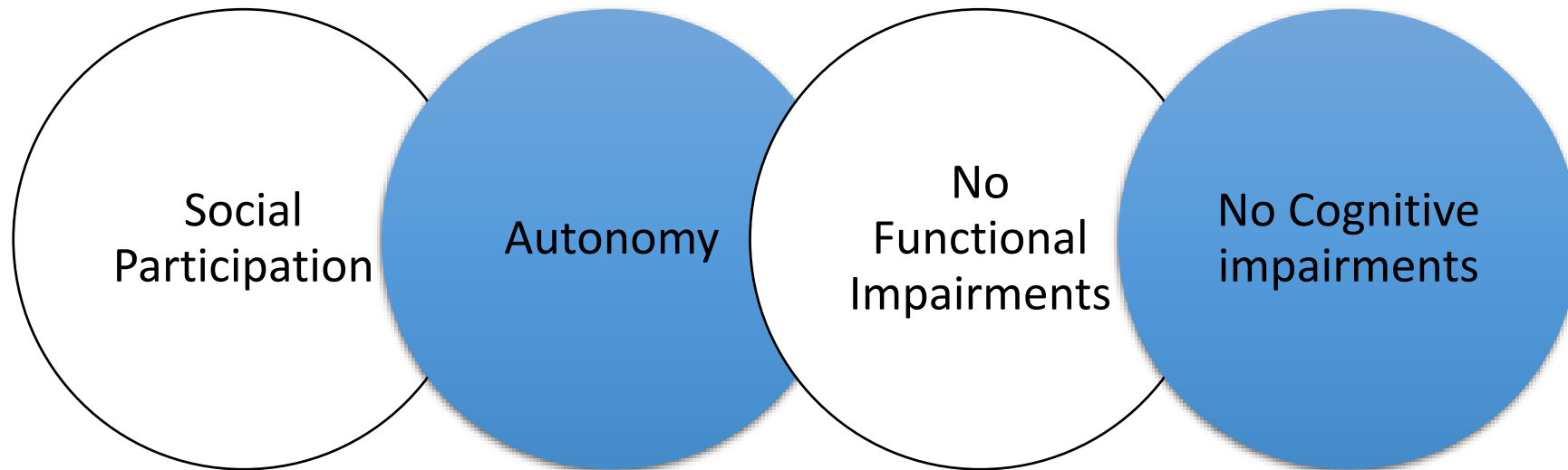


# Healthy Aging (WHO, 2019)

- Process of developing and maintaining **functional ability** that enables **well being** in older age - environmental factors and support networks are integral
  - being able to do the things one values for as long as possible and remaining connected
  - having a high level of functioning across multiple domains



**WELL BEING IS AN INTEGRAL COMPONENT OF ADDING LIFE  
TO YEARS  
IN THE FACE OF INCREASING LONGEVITY**



**Keys to Healthy Aging (Simpson, Simpson &  
Dubno, 2015)**

# THE HEALTHY AGING CHALLENGE TO AUDIOLOGY

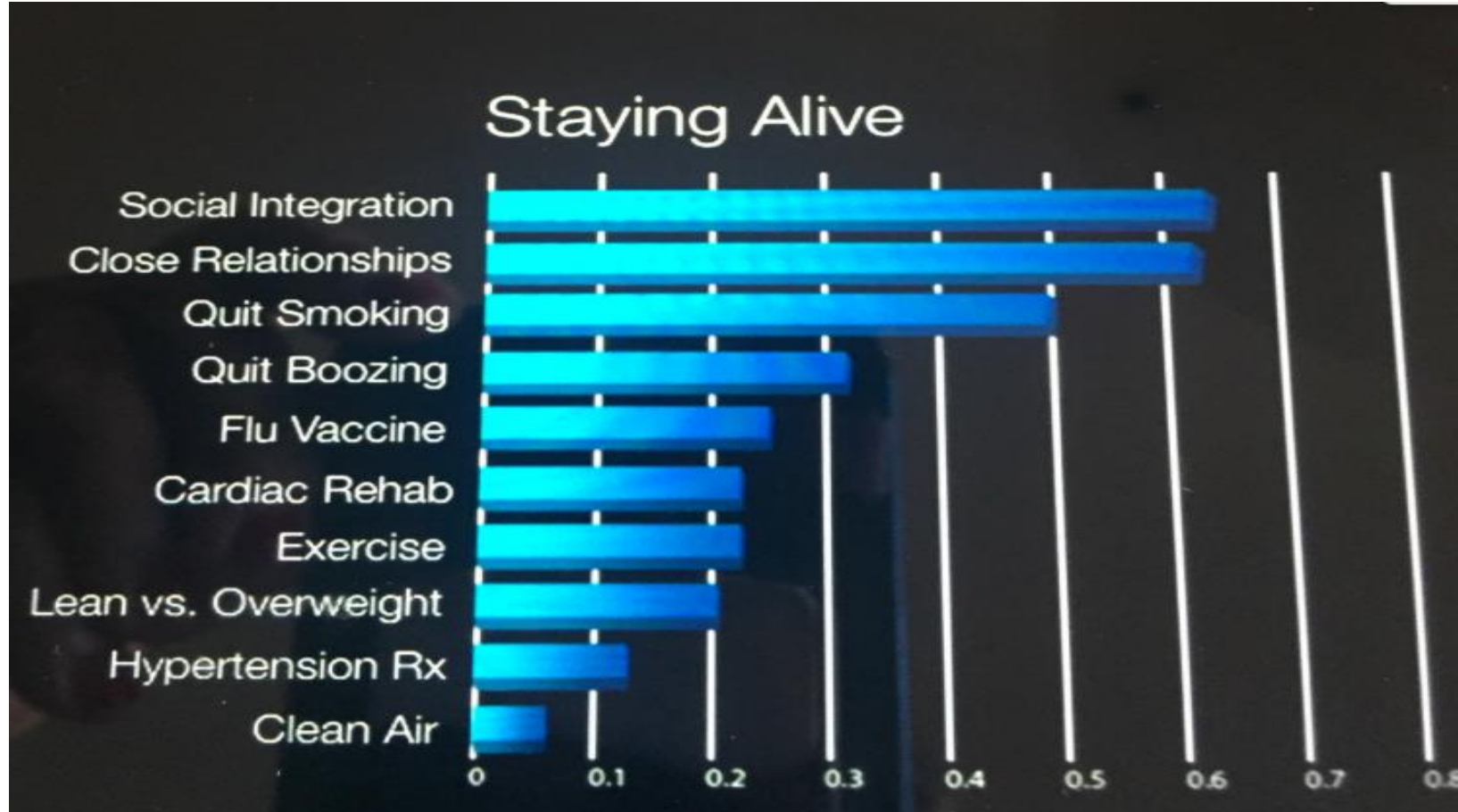
- Develop and deliver products, services and business models that will foster **well being** and support people as they age
- Our ultimate goal should/could be to help our patients remain active, productive, independent and **socially connected** for as long as possible
- Help foster well being according to what matters most to our patients



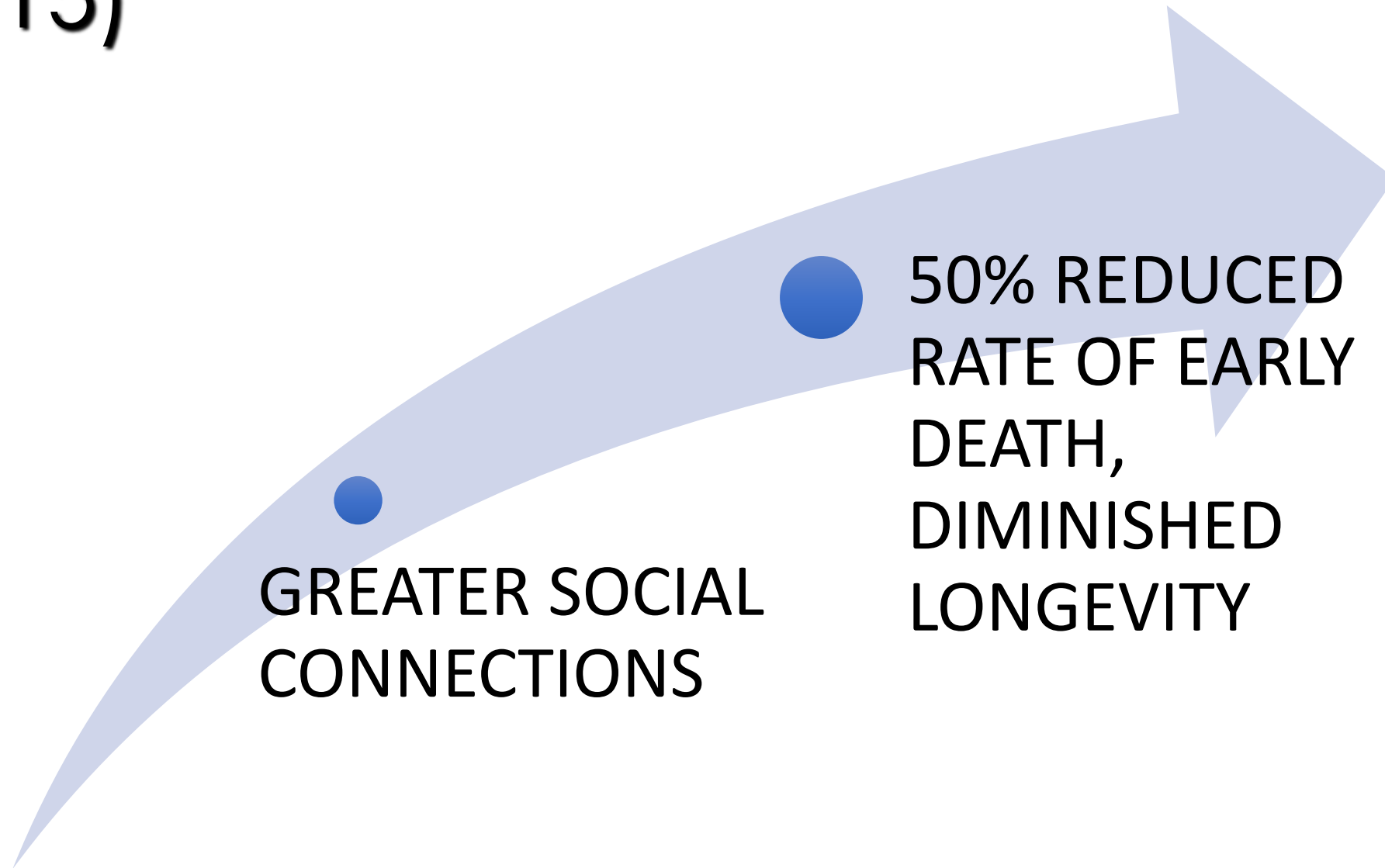
**A strong social environment  
provides emotional and  
intellectual stimulation**

**Critical to healthy aging and  
longevity**

# INDICATORS OF LONG LIFE EXPECTANCY (Pinker Ted Talk-2017)



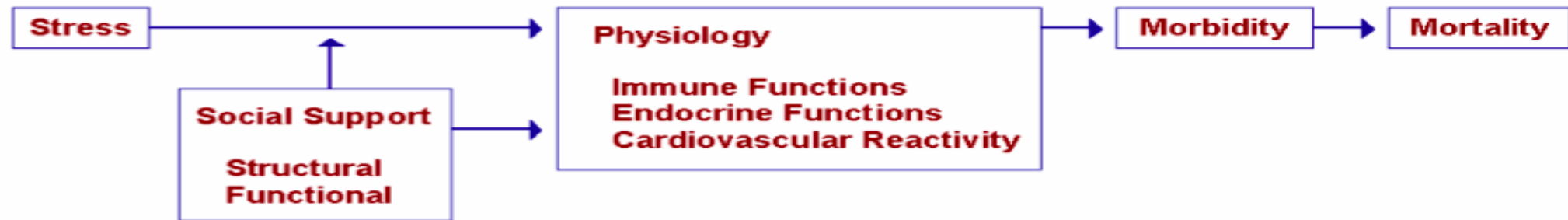
# Hold-Lunstad, Smith, Baker, et al., (2015)



GREATER SOCIAL  
CONNECTIONS

50% REDUCED  
RATE OF EARLY  
DEATH,  
DIMINISHED  
LONGEVITY

# PATHWAYS TO PREMATURE MORTALITY ASSOCIATED WITH SI



Active participation/engagement in a broad range of social relationships benefits health by providing resources needed to cope and deal with stress and reduces risk of stress hormone release



# SOCIAL ISOLATION and LONELINESS: A TUTORIAL

“LETS WAGE A WAR AGAINST LONELINESS (NY-TIMES:  
NOV. 2019 - N. KRISTOF)”

<https://www.nytimes.com/2019/11/09/opinion/sunday/britain-loneliness-epidemic.html?smid=nytcore-ios-share>



# SOCIAL ISOLATION (SI)

S.I. - An objective and quantifiable reflection of reduced social network size and paucity of social contact

- Objective measure of number of social contacts, size of social network (and the frequency of engagement with it), availability of transportation, ability to access resources and information

# LONELINESS

(De Jong-Gierveld & Van Tilburg, 1999; AARP,2018)

Loneliness (Subjective Isolation) – How people perceive their experience and whether or not they feel isolated

- A subjective discrepancy between one's actual and preferred level of social contacts
- Quality of existing relationships is less than desired

# Social Versus Emotional Loneliness

- Emotional loneliness manifests in the absence of an intimate attachment
  - There are enough people I feel close to
- Social loneliness – absence of a broader community or social network that allows people to feel as if they belong
  - (There is always someone I can talk to about my day-to-day problems)

# SI VERSUS LONELINESS

( <https://www.nanaimoseniorsconnect.ca/wp-content/uploads/2017/01/Final-Social-Isolation-in-Seniors.pdf> )

- SI is Situational
  - Loneliness is Experiential
- 
- Higher levels of loneliness are associated with higher levels of social interaction anxiety and social distress, less social interactions and poorer Q of L(Davey, 2018)



# PREVALENCE (Ong, Uchino, & Wethington, 2016)

- US – 20 to 25% Among Adults 75 years of age and Older
- Australia – 10% of persons 65 and over
- China – 29% of persons 60 years of age and older
- Europe – Higher prevalence in Southern than Northern Europe
  - 12% of older persons across Europe



# SOCIAL ISOLATION TRIGGERS



# THE SOCIAL ISOLATION TRAJECTORY

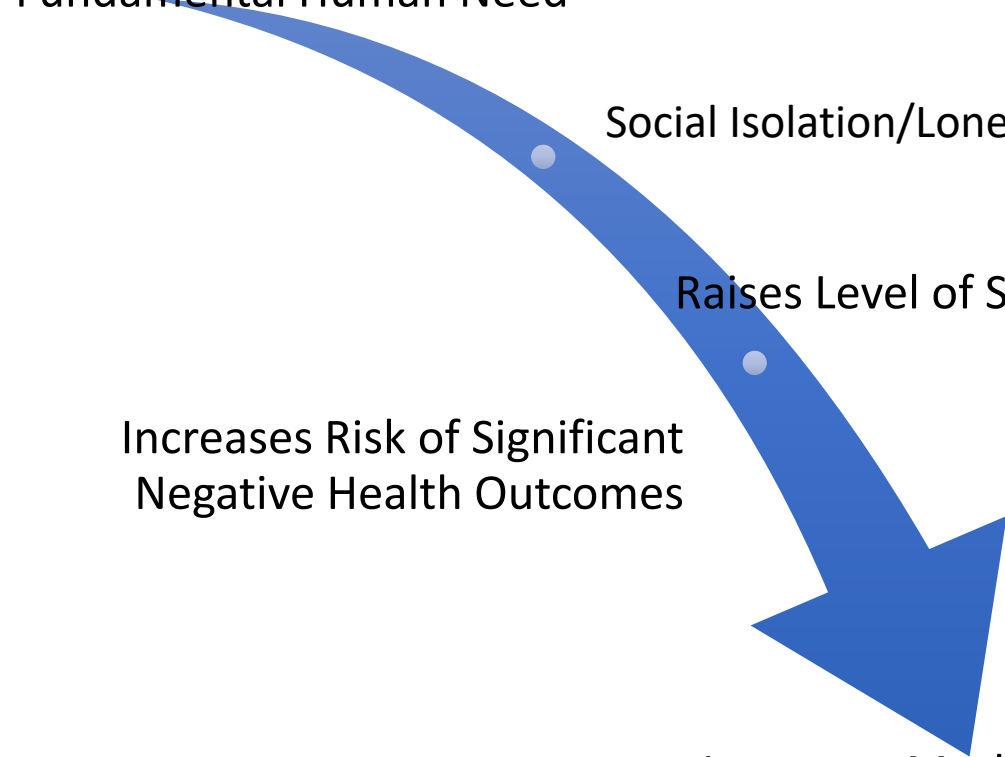
Social Connectedness a  
Fundamental Human Need

Social Isolation/Loneliness An Epidemic

Raises Level of Stress Hormone Released

Increases Risk of Significant  
Negative Health Outcomes

Increases Morbidity, Health  
Care Costs, and Mortality





# THE PUBLIC SERVICES CONSEQUENCES OF SI - UK (Griffiths)

Individuals that are socially isolated are:

- 1.8 times more likely to visit a GP
- 1.6 times more likely to visit A&E
- 1.3 times more likely to have emergency

Admissions

- 3.5 times more likely to enter local authority funded residential care.

# THE HEALTH RELATED CONSEQUENCES OF SI-UK (Griffiths)

- 3.4 times more likely to suffer depression
- 1.9 times more likely to develop dementia in the following 15 years
- 2 to 3 times more likely to be physically inactive, which may result in a 7% increased likelihood of developing diabetes, an 8% increased likelihood of suffering a stroke and 14% likelihood of developing coronary heart disease

# **SURPRISING DOWNSTREAM EFFECTS OF LONELINESS** (Donovan, 2016)



**Loneliness and Depression appear to have pathological effects on the brain which are associated with cognitive decline**

**Loneliness associated with the amount of amyloid in the brain – amyloid accumulation  
A pathological sign of AD**

**Loneliness at baseline associated with a 20% faster rate and elevated risk of cognitive decline over 12 years**

**Loneliness increases mortality by 26% (Marmot Review)**

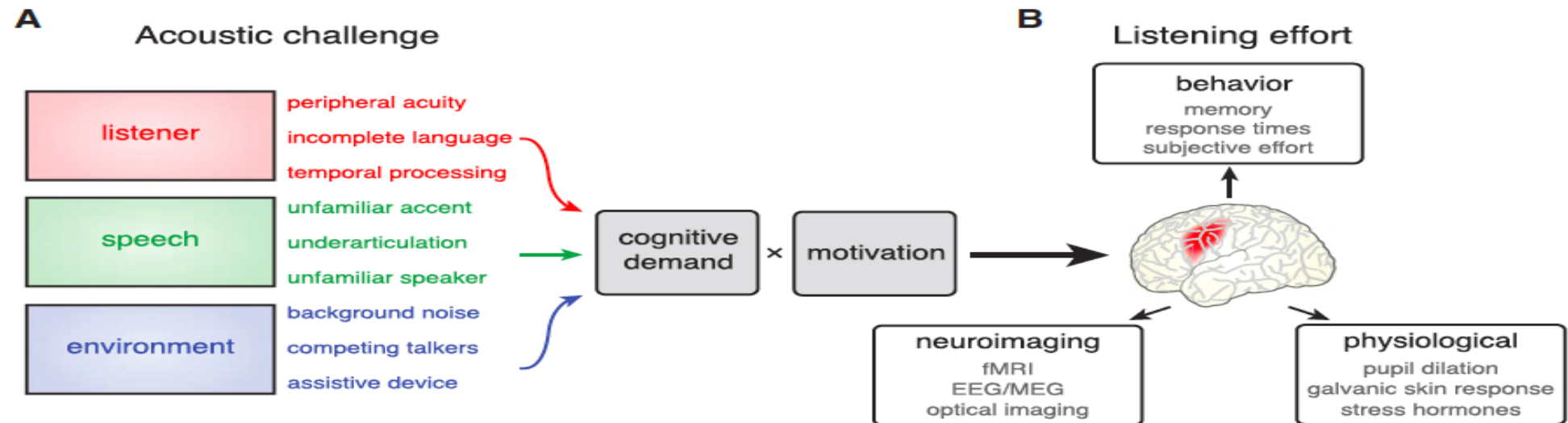
# ARHL, SI and LONELINESS



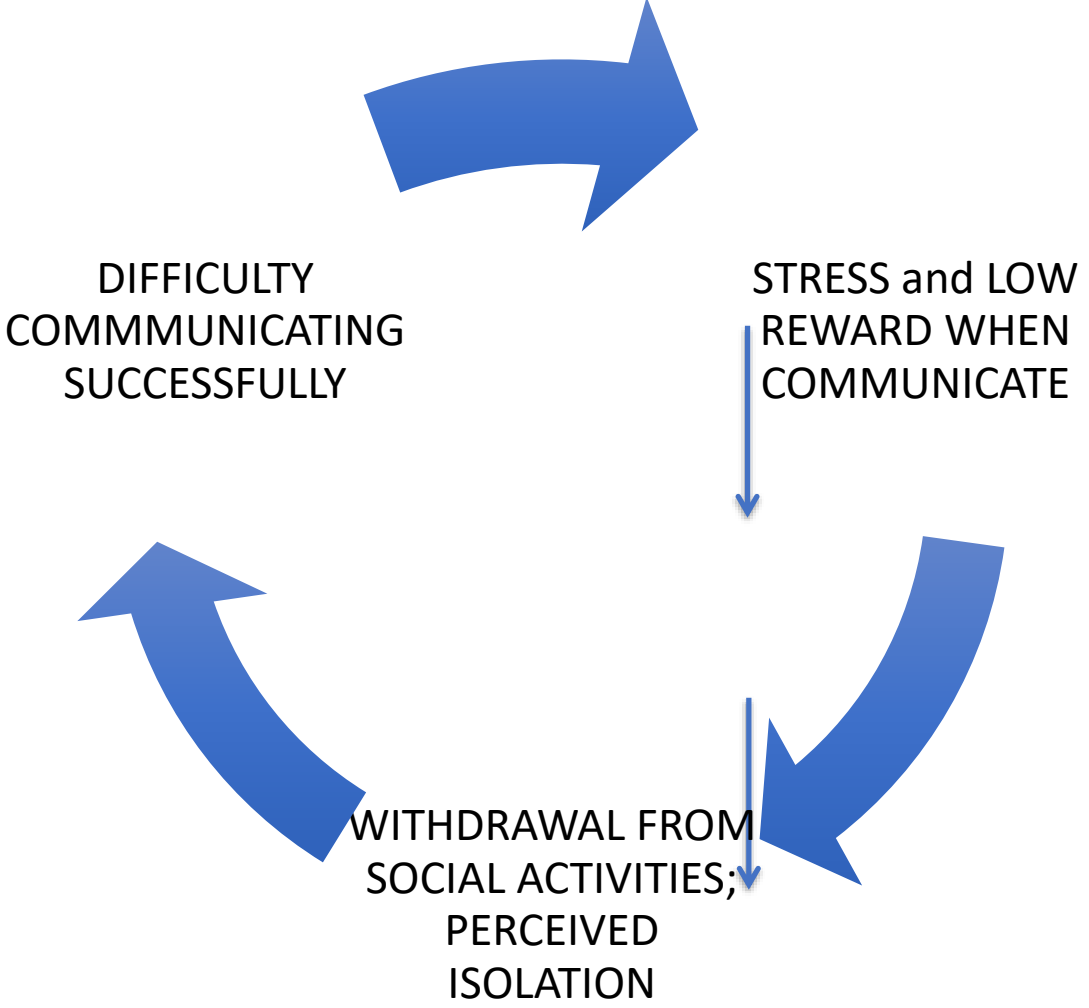
“Isolation is common when you can not comfortably **hear** and communicate... you retreat as you feel safe in silence.... you get gun shy going out in to the real world worried your dark secret will come out as if you committed a crime.....**Hearing loss is my personal Mt. Everest...Hearing aids have improved and saved my life..**”



# COMMUNICATIVE DEMANDS AND EFFORT EXERTED BY LISTENER (PEELLE, 2017)



# THE CYCLE





**World Health  
Organization**

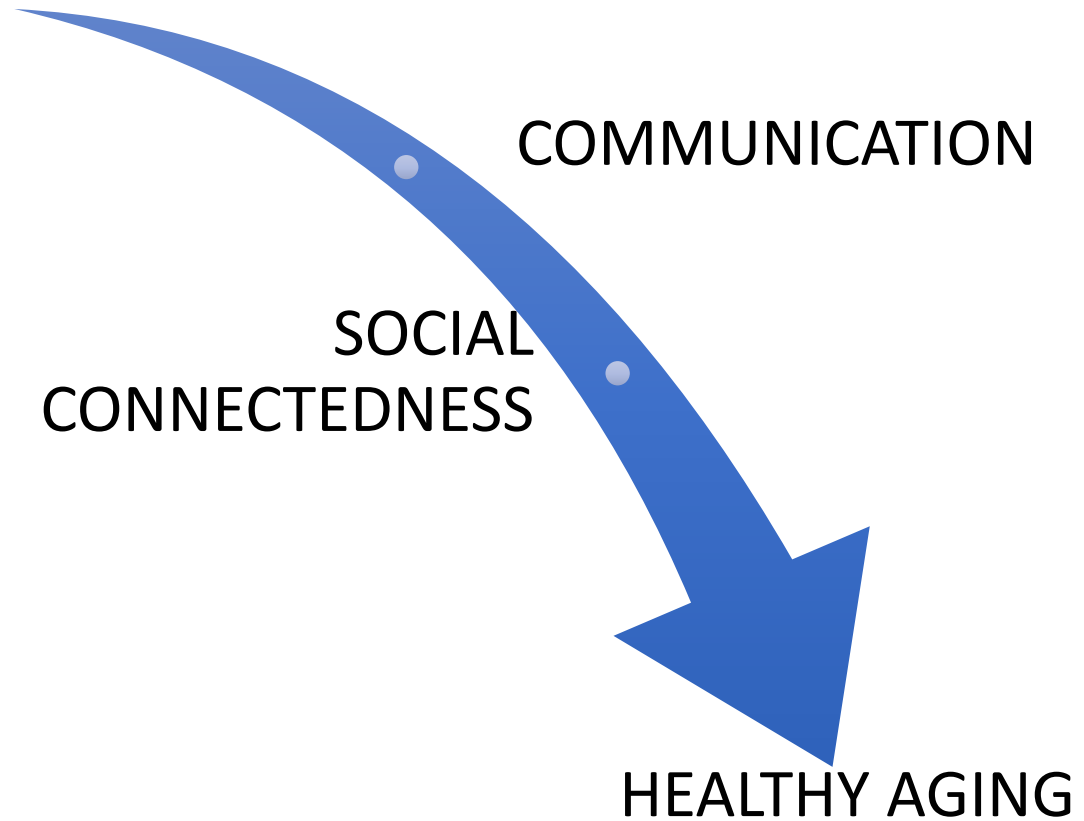


“Untreated hearing loss affects communication and can contribute to social isolation and loss of autonomy.....Despite its considerable individual and social implications, hearing loss is largely undetected and under-treated in older people (Integrated Care for Older People (ICOPE), 2019).”





HEARING WELL  
MATTERS



COMMUNICATION

SOCIAL  
CONNECTEDNESS

HEALTHY AGING

# SI and ARHL

- Weinstein (1980):
  - Hearing status correlated with SI and loneliness; Stronger correlation with loneliness than SI
  - Self reported hearing handicap and auditory processing **correlate more strongly** with subjective than objective isolation; pure tone test results and WRS weakest correlation

# SI and ARHHL Among Canadians (Ramage-Morin, 2016)

- Ramage-Morin (2016) – Canadian Community Health Survey
  - 21% of persons 75 years and older self reported hearing difficulty
  - 12% of men and 16% of women reported feelings of loneliness
  - 23% of woman with hearing difficulty reported feeling socially isolated vs. 16% of woman who did not report hearing difficulty
  - As hearing difficulty increased, odds of reporting feelings of isolation increased
  - Men who reported corrected hearing difficulties were more likely than those with no impairment to be socially isolated

# South Australian Health Omnibus Survey (Hawthorne, 2008)

- Likelihood of self perceived social isolation increased with number of chronic conditions
- Individuals with 5+ chronic condition were 19 times more likely to feel social isolation than persons with 0-1 chronic health conditions
- **Depression had the strongest association with social isolation, followed by self reported hearing difficulties**

# Hearing loss and Perceived Social Isolation/Loneliness

(Pronk, Deeg, and Kramer, 2013)

- Significant relationship between baseline hearing status and loneliness (DeJong Gierveld Loneliness Scale)
  - Higher baseline hearing status scores were associated with greater social loneliness scores at 4 year follow-up in males, in those with chronic diseases, and in non-hearing aid users
    - Hearing aids may serve as a buffer against loneliness (adverse effect was absent for hearing-aid users)

# Loneliness and Age Related Hearing Loss (Sung, et al., 2015, 2017)

- Greater hearing loss associated with greater degree of loneliness
- Each 10 dB increase in PTA associated with a 1.43-point higher score on UCLA loneliness scale
- Severe/profound hearing loss associated with UCLA loneliness scale scores that were 13.6 points higher as compared with the “normal” hearing category
- Metrics of quality of life (HHIE), communication difficulties (Quantified Denver Scale Scores), emotional well being and mental health scores on the SF-36 were strongly correlated with Loneliness Scale Scores
  - Depression scores highly correlated with loneliness scores
  - Smaller social networks and older age were NOT necessarily associated with increased loneliness

# **INTERVENTIONS TO COMBAT LONELINESS-INDIVIDUAL AND GROUP BASED APPROACHES: PSYCHOSOCIAL**

Social Facilitation Interventions- Productive Engagement

“Befriending”- Volunteer Companions, Telephone Based Connections – UK

LISTEN –CBT (Small group Sessions to Explore Needs of Lonely People – Loneliness Intervention Using Story Theory to Enhance Nursing Outcomes – USA

# INTERVENTIONS TO COMBAT LONELINESS CONTINUED

Animal Interventions (Hens!)-UK

“Circle of Friends” – Group Self Efficacy Building around Loneliness-  
Finland

InTouch Living, Australia – Digital Social Care: A commercial digital care solution designed to facilitate interaction between older Australians, their carer, family, friends and wider community using social media (Skype, Email, etc.)

**Help Maintain Existing Relationships, Create New Connections**



# HENSIONERS-UK



# CONCLUSION RE TRADITIONAL INTERVENTIONS (Griffiths)

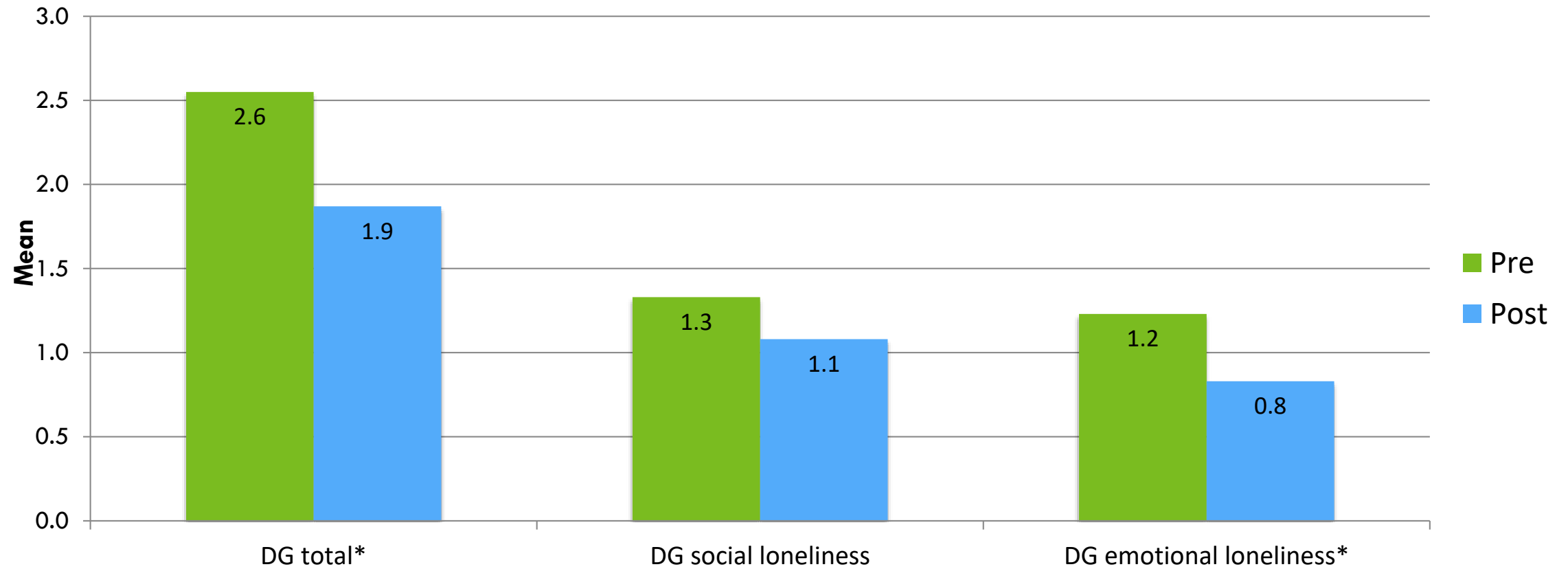
“By opening up communication channels, technology enables lonely and isolated people to better maintain existing relationships as well as allowing them to easily create new connections, which may later develop into enduring relationships...Still much to be done, as most work is experimental....”



## HEARING HEALTH CARE INTERVENTIONS

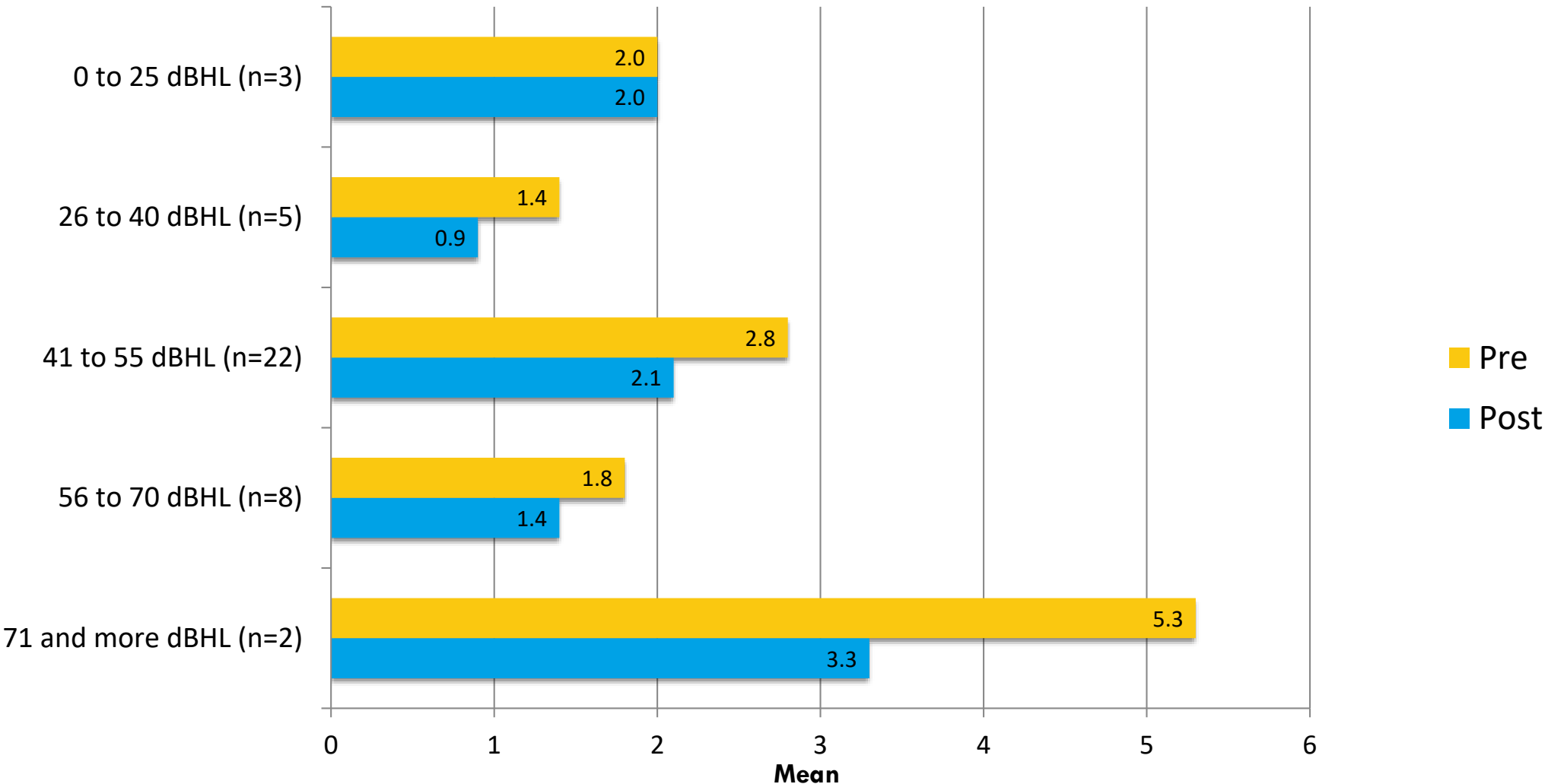


# DG Loneliness Scale-Outcome Measure (Weinstein, et al. 2016)

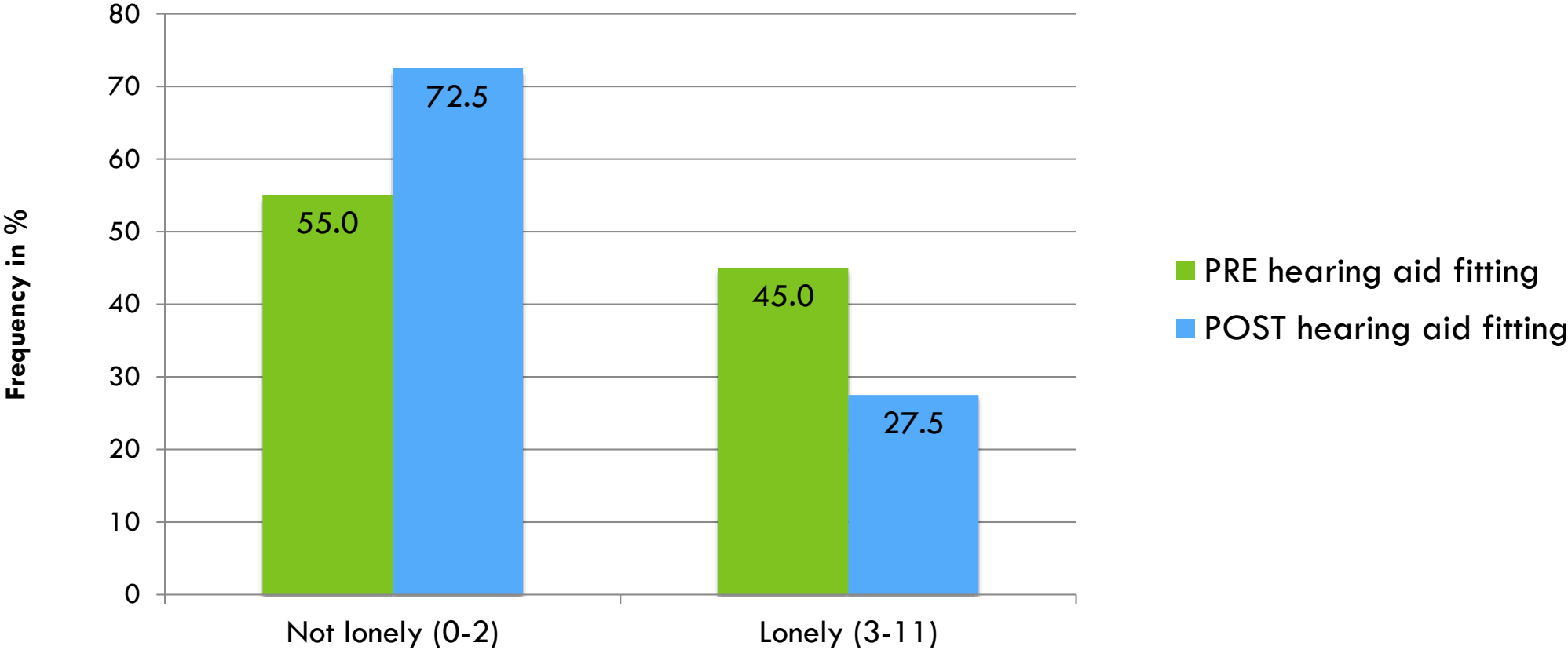


\* significant  $p < 0,05$  (two tailed)

# Severity of Hearing Loss And Social/Emotional Loneliness

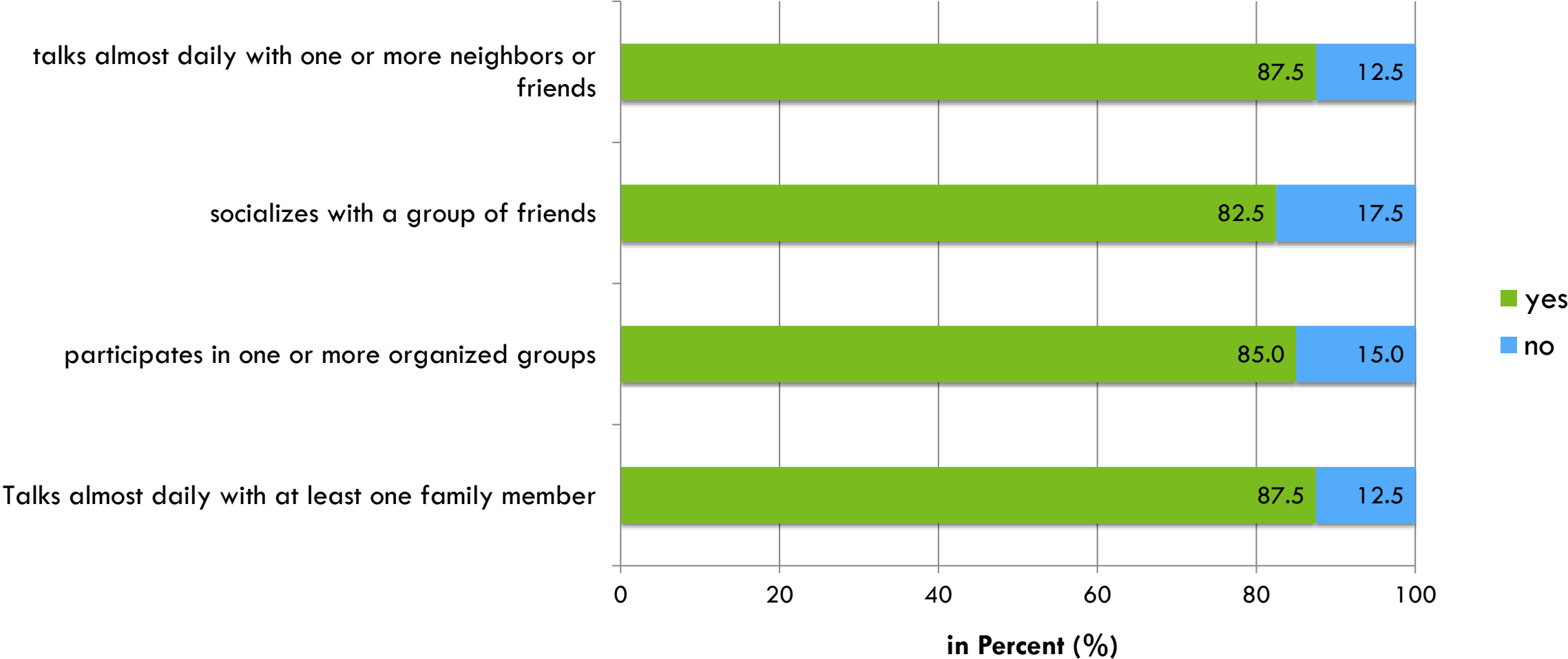


# CHANGES IN SOCIAL/EMOTIONAL LONELINESS



Chi square=18.54  
Fisher's exact test: df=1; p (two tailed) 0.000 → significant p<0,05

# Social Network Size





Social  
Network Size

.10



Perceived  
Loneliness



# Audiologic Variable Most Strongly Correlated with Loneliness

	Correlation Coefficient *	<i>p</i> -value
Mean PTA	.083	n.s.
QSIN unaided	-.172	n.s.
QSIN aided	-.206	n.s.
<b>Total HHCIR Pre</b>	.483	< .01
SI-HHCIR Pre	.297	n.s.
<b>H-HHCIR Pre</b>	.461	< .05
R – HHCIR Pre	.361	n.s.
<b>Age</b>	-.405	< .05

\* Spearman Rho

# Walk, Talk and Listen (Jones, Siever, Knuff, et al., 2019)

- Control Group – Weekly Group AR (GAR) (hearing education, goal setting, psycho-social and behavior change, communication strategies, assertiveness training)
- Intervention Group-One hour GAR, 60 minutes of exercise – 45 mins strength, resistance/coordination training, 15 mins. walking
  - N=28 older adults with self reported hearing difficulty
  - 11 week follow-up from baseline
  - Non audiologists did GAR

# OUTCOMES

- HHI scores improved dramatically in more than 80% who attended GAR sessions; The majority reported improvement in terms of visiting friends and relatives more often and had less difficulty understanding TV and speech; more than half said they felt less embarrassed and 42% said they increased amount of social contact
- Social and emotional loneliness scores improved dramatically in those attending more than 80% of GAR sessions
- 67% were using GAR<sub>3</sub> communication strategies at least one hour a day!!

- Exercise did improve gait and upper body flexibility but no additional improvement beyond GAR alone for measures of loneliness and scores on the HHI
- Persons with poorer baseline HHI/ loneliness scores and with higher GAR attendance showed the greatest improvement
- COSI – 42% of respondents indicated that they attended more social events

As individuals gained more self efficacy and confidence in managing their hearing loss and achieving their social and emotional goals hearing related Q of L seemed to improve

# ONGOING INVESTIGATION (Chodosh, Weinstein & Blustein, 2019)

- Providing Hearing Assistance to Socially Isolated Older Adults in Los Angeles Communities (PHASE)

# PHASE

- Provide simple non-custom amplifiers to socially isolated older people who have impaired hearing (2 out of 3 people who would benefit from hearing aids do not use them)
- Trained staff will identify socially isolated candidates who live in the community (using communication screening and iPad delivered audiometric assessment - Shoebox)
  - will determine eligibility for hearing assistance
- Training “Interventionists” in the provision of hearing assistance devices and follow-up
- Intervention includes easy-to-read communication program

# TAKE AWAYS



# CLINICAL IMPLICATION # 1

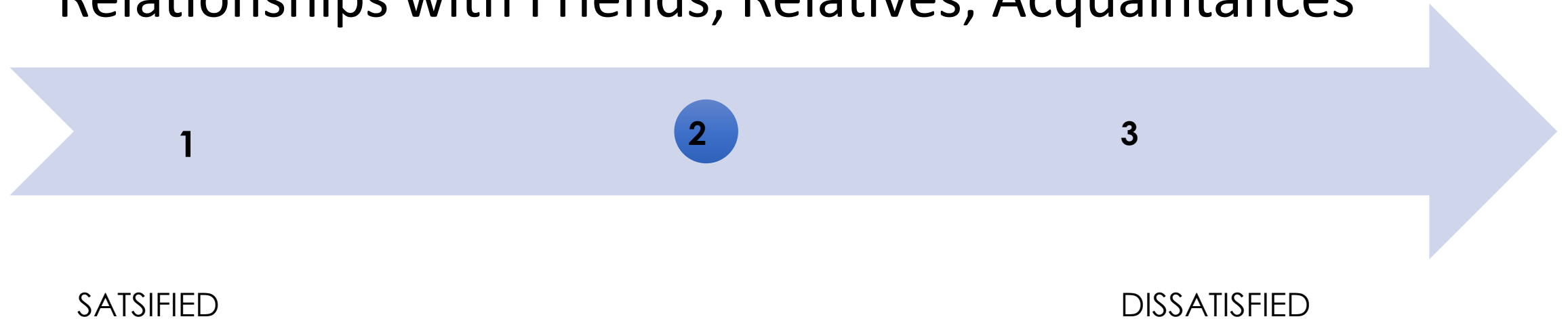
**ASSESS, ASSESS, ASSESS**





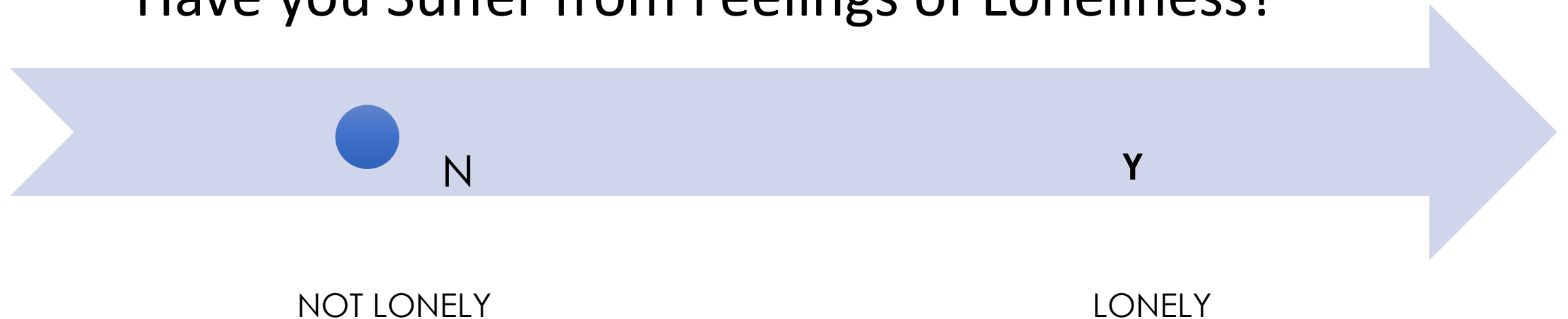
# SINGLE ITEM METRIC: SI

Rate Satisfaction with Amount and Quality of Social Relationships with Friends, Relatives, Acquaintances



# SINGLE ITEM METRIC: LONELINESS (Poey, et al., 2017)

Are you Ever Bothered by Feelings of Loneliness or  
Have you Suffer from Feelings of Loneliness?



# MEASURES OF SOCIAL ISOLATION/ENGAGEMENT

- Social network size
- Social network diversity
- Frequency of social interaction
- Attendance at group events
- Amount of time spent socializing with friends and family
- Participation in volunteer activities
- Learning and sharing new experiences
- Single question metric

# MEASURES OF LONELINESS

- Single Question Metrics
- DeJong Gierveld Loneliness Scale – Popular in Europe
- Revised UCLA Loneliness Scale (e.g. felt isolated from others around them)
- SIM (Heffernan, Habib & Ferguson, 2019)
  - Isolated during group conversations
  - Find social gatherings stressful
  - Frustrated by being left out
  - Isolated at get-togethers with family and friends
  - Unenthusiastic about joining in conversations

# Clinical Implication #2



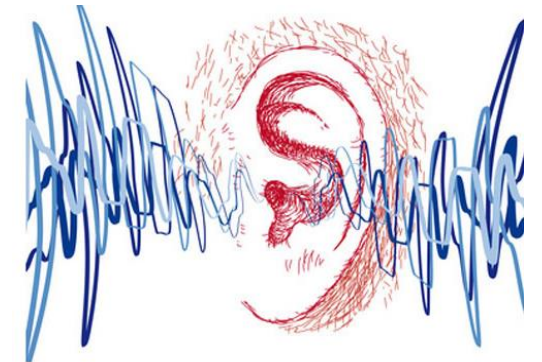
- **Reframe Goals of Hearing Health Care interventions - Optimize audibility and quality of communication to improve social engagement/participation, quality of interactions, maximize well being**
  - Hearing is a “social sense;”
  - Plays an important role in developing and maintaining intimate relationships, social connections with family, friends, coworkers, and acquaintances

# OPTIMIZE SELF-MANAGEMENT

- Help Your Patients Build and Strengthen Personal Resources and Optimize Functioning and Full Inclusion
  - Maximizing audibility and addressing communication and self management strategies can help improve the ability of our patients to function within the context of their social environments

# ENGAGEMENT

- Suggest activities that build resilience:
  - Join a social group
  - Develop a family communication plan
  - Begin a volunteer position or a job
  - Remain socially active and engaged
  - Maintain meaningful relations



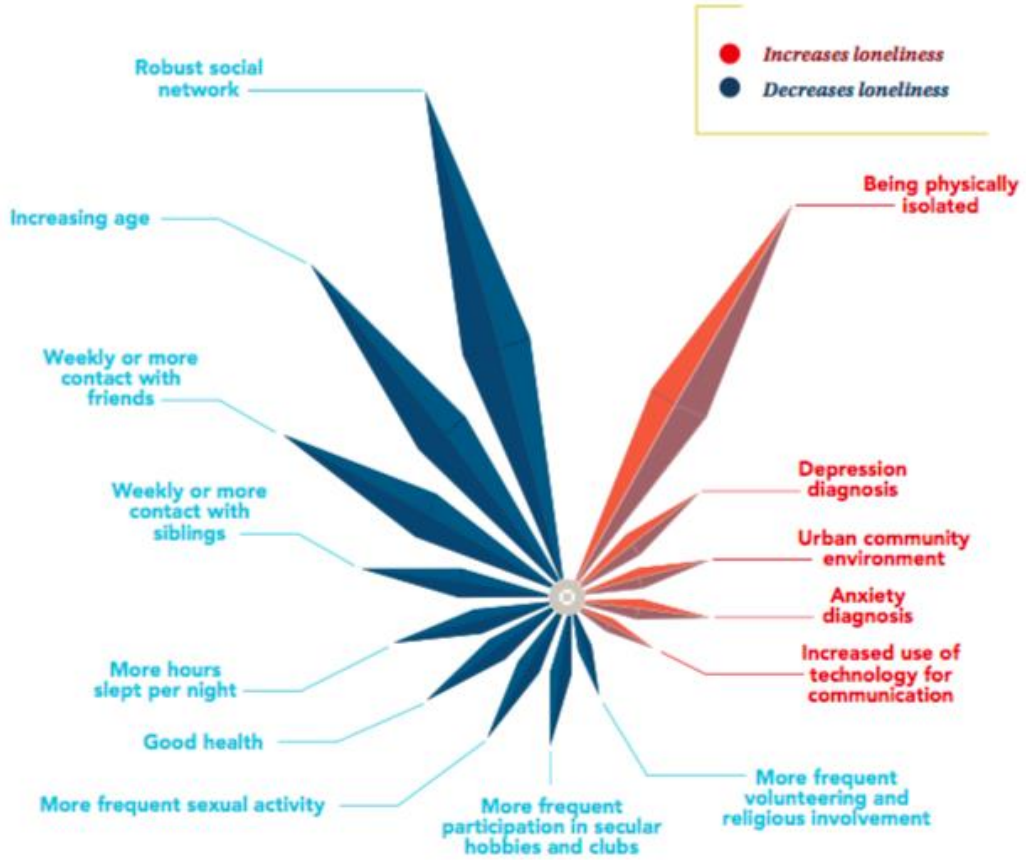
# SELF MANAGEMENT INTAKE QUESTIONS

- Do you inform and/or remind family and friends that you have hearing difficulty
- Do you ask others to remove their hands from in front of their mouth when speaking?
- Do you tell your primary care physician that you have a hearing loss and some difficulty communicating and suggest ways to optimize the clinical encounter?
- If you are in a noisy room, how do you manage the situation?
- Do use ever use hearing apps on your smartphone?
- Do you find yourself putting in more and more effort to understand others when they are speaking?
- Do you find yourself decreasing your engagement in social activities because of communication challenges?
- Of course ask specifics about hearing aid management!!!



# Clinical Implication #3 = Public Health Approach

## AARP(2018)





- Emphasis on optimizing audibility across social networks
- Encourage participation in social activities (Middleton & Yaffe, 2010) and volunteerism
- Intervene in several different aspects of social environment
  - Increase availability of social support within existing networks
  - Increase social integration by creating and nurturing ties between individuals and his her community
  - Reduce negative interactions via improved audibility

# Clinical Implication #3 = Public Health Approach (Poey, et al., 2017)

- Emphasis on optimizing audibility across social networks
- Encourage participation in social activities (Middleton & Yaffe, 2010) and volunteerism
- Communication Accessibility - communication enhancing systems are often the difference between participating in and engaging with ones community or feeling isolated



# Clinical Implication # 4: Outreach

- PHYSICIAN REFERRALS: Physicians Should Refer Patients Experiencing Social/Emotional Loneliness for Hearing Health Care
- SCREEN HEARING IN HEALTHCARE SETTINGS
- SCREEN HEARING IN ED –
  - Impacts on Adherence, Compliance, Readmission Rates



**World Health  
Organization**



**Recommendation 4:** “Despite the low quality evidence **Screening** followed by provision of **hearing aids** should be offered to older people for timely identification and management of hearing loss given the opportunity costs and the societal implications of undiagnosed and untreated hearing loss (Integrated Care for Older People, ICOPE, 2019)

”

# WHY OUTREACH MATTERS?

- Majority of persons with hearing loss do not use hearing aids
- Majority of persons reporting to audiologist for hearing aids/AR are not isolated
- We must reach those with hearing loss who are isolated
- Since hearing aid use may be protective against the experience of perceived loneliness, MDs should refer patients who perceive themselves to be feeling lonely

# HOW ADDRESS LONELINESS (Cacioppo, 2017)

**E**ncourage patients to engage

**A**ddress hearing loss/communication challenges early

**S**ee a hearing health professional

**E**ase listening effort and cognitive load

# HOW ADDRESS HEARING LOSS

**H**earing Assistance

**E**ase Listening/Effort

**L**ook at People when Speaking

**P**osition Yourself Away from Noise



# WHY HEARING AIDS

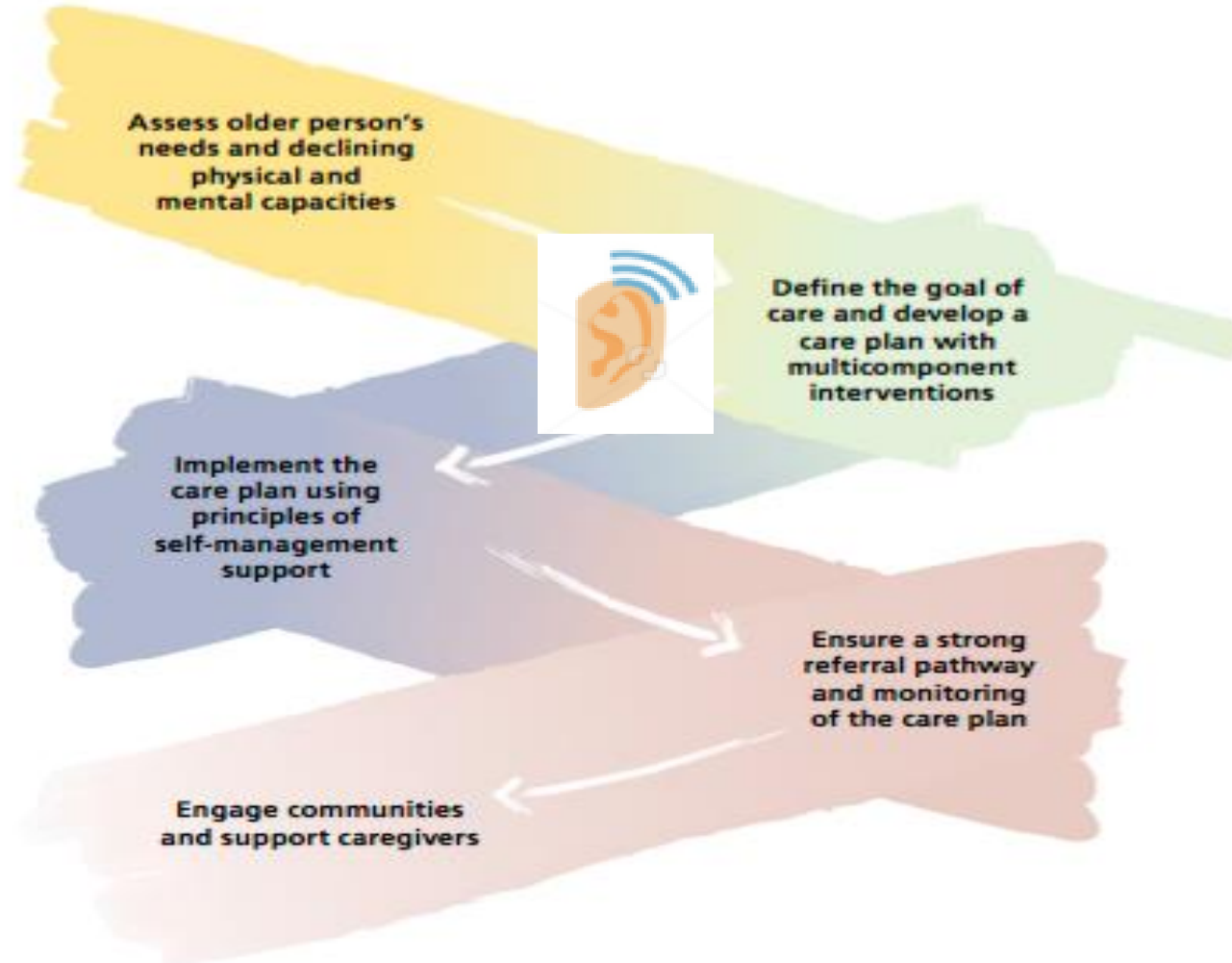
**H**earing and Communication Ability Enhanced

**E**ffort to Communicate Reduced

**A**bility to Socially Engage to Participate, and Remain **A**ctive  
Optimized

**R**estoration of Social Connectedness and Richness of Social  
Environment Optimizes Brain Health

# TAKE-AWAY: ICOPE-WHO



# TAKE AWAY: THE THINGS PEOPLE VALUE AS THEY AGE

- Continue to learn, to grow and to make decisions independently
- Be mobile
- Build and maintain relationships
- Contribute to society
- Remain engaged
- Be resilient (i.e. adapt with ease during adversity)



**Haben Sie Noch Fragen an Mich?**



Dankeschon (bweinstein@gc.cuny.edu)

