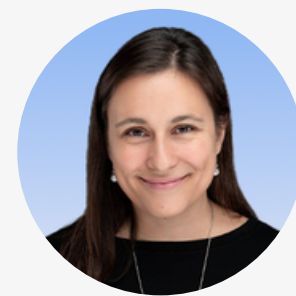




# The Science of Caring:

Evidence-Based Innovations  
for Non-Pharmaceutical  
Dementia Care



Valerie Larochelle  
*CEO and cofounder*

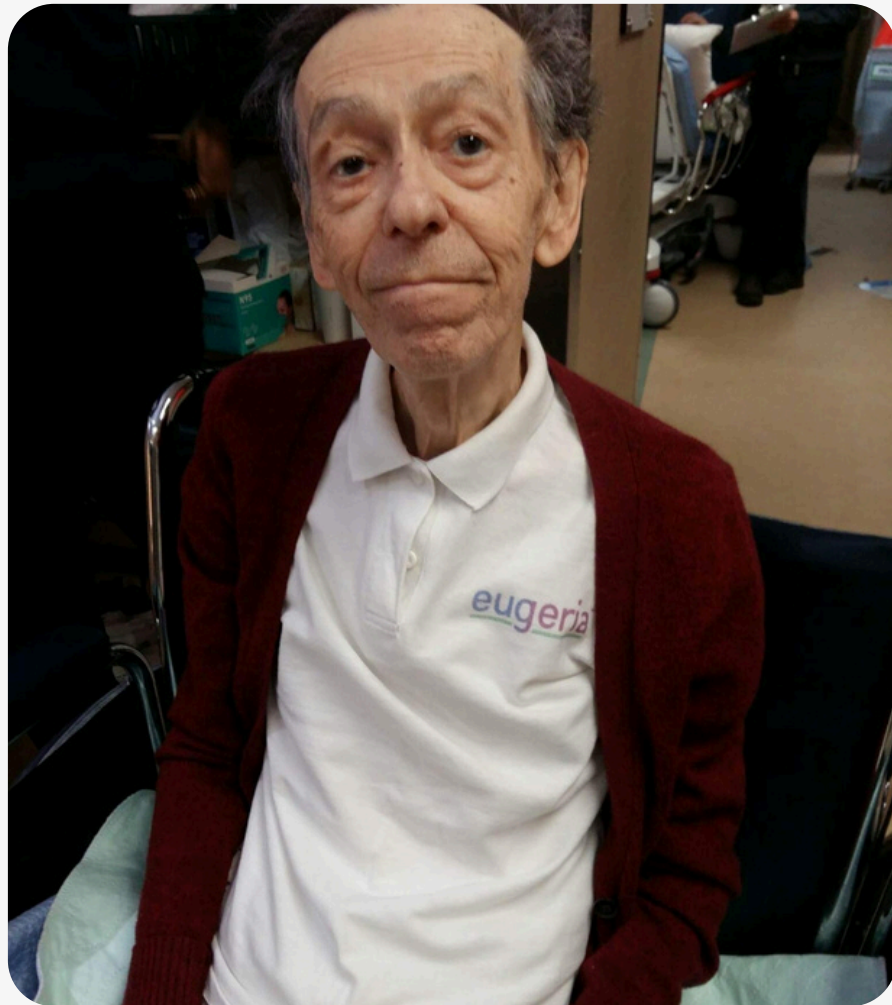
**eugeria**

# Our story

Eugeria was founded in 2018 by Valerie Laroche, our CEO, and Dr. Quoc Dinh Nguyen, a practicing Geriatrician and our Medical expert.

They decided to make a positive social impact in a market that is often overlooked and stigmatized. They launched Eugeria with the goal of **leveraging innovative technology to support the autonomy and well-being of older adults and people living with dementia.**





# Our mission

Innovate to simplify daily life and offer resources for **aging well**, it's in our name!

eugeria  
↓  
well

eria  
↓  
aging

# Our selection criteria

Our multidisciplinary team evaluates products by reviewing scientific research, consulting with health care professionals and conducting product trials with local seniors.



**High quality**



**Effective**



**Dignified**



**Backed by science**

# Eugeria's line of exclusive dementia care solutions for communities

## Early stage of dementia



### **Idem Smart Calendar Clock**

Increase autonomy of seniors in your community. They receive reminders, messages, notes, and upcoming events: both from you and their loved ones

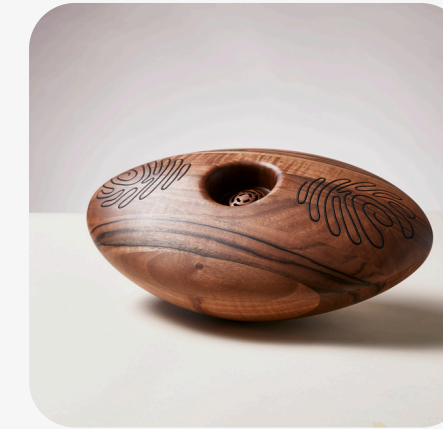
## Mid-stage of dementia



### **True doors**

Transform your community's doors into unique front doors with custom artwork that provides sensory therapy and minimizes wandering and exit-seeking behavior

## Mid to late stages of dementia



### **Tovertafel**

Offer interactive care technology; accessible to staff and families around the clock, promoting engagement at any hour

### **CRDL**

Enable impactful connections for your non-verbal residents

### **HUG**

Provide a compassionate care tool, designed to comfort those who are anxious and need a cuddle

# Current trends observed in dementia care

- 1** The at **home care market** is still underserved (earlier stages)
  - lack of great products
  - lots of noise
  - still quite expensive
- 2** Great **research progression** on understanding the disease and how we can compensate
- 3** A **very fragmented ecosystem**, not ready for what is coming

# The Science of Caring

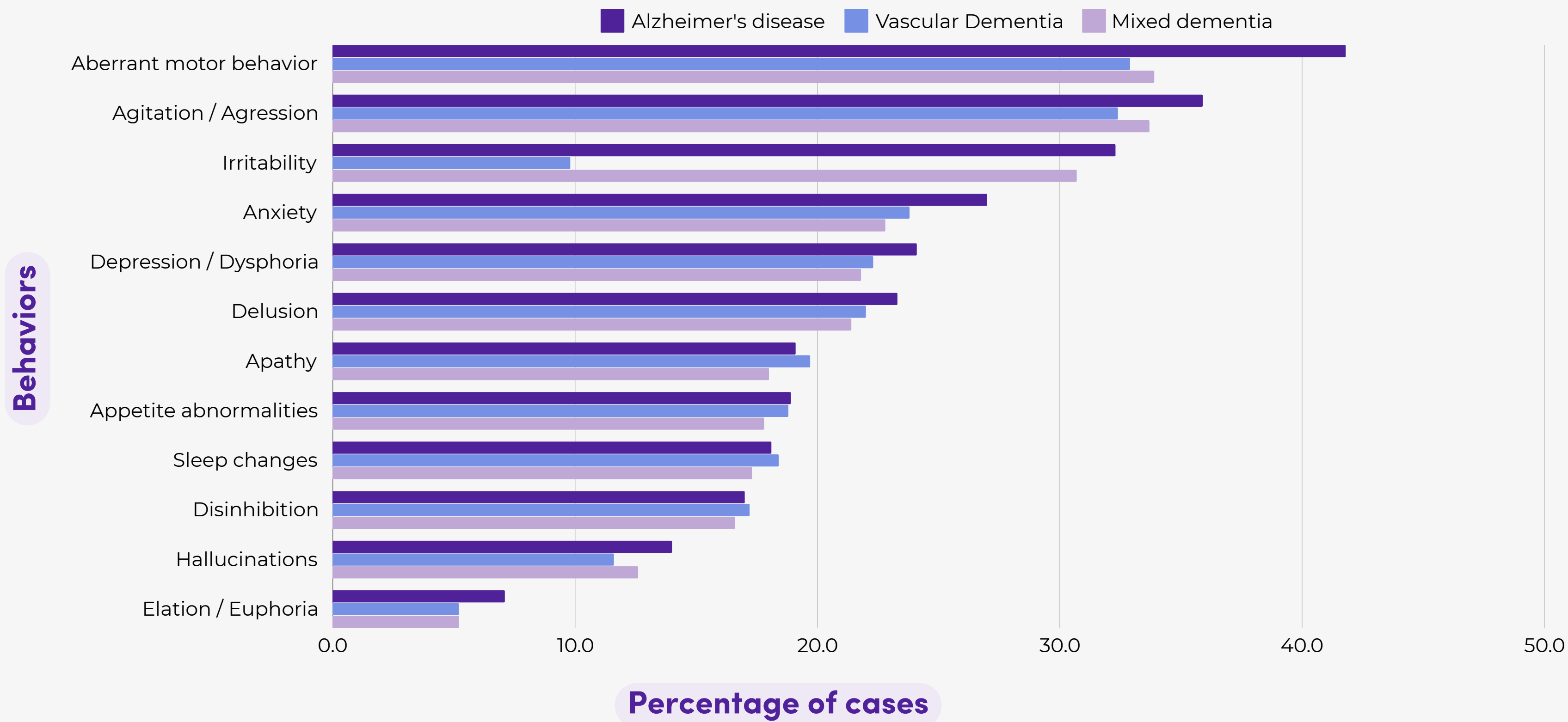


# Two key principles on Why this session matters:

**Dementia associated behaviors pose a challenge**

**Why Non-pharmaceutical Care matters**

# Behaviors associated with dementia - How they vary



Behaviors

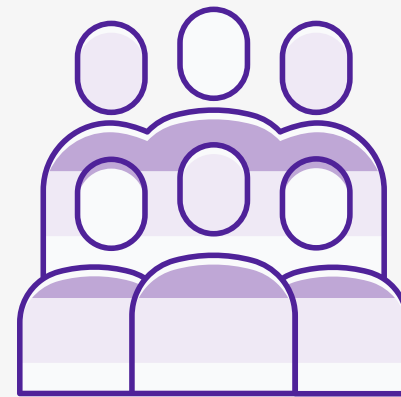
Percentage of cases

# Why Non-Pharmaceutical Care Matters

The limitations of traditional pharmaceutical care



**Addresses the symptoms instead of the root causes**



**Limited personalization**



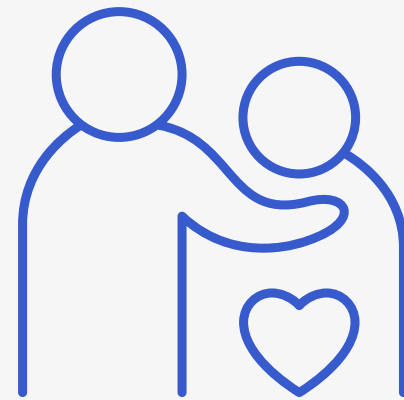
**Negative side effects**

# Why Non-Pharmaceutical Care Matters

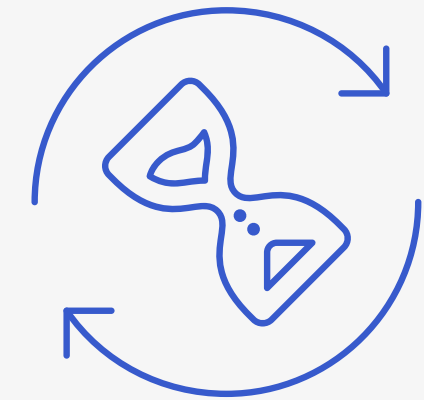
The benefits of non-pharmaceutical care



**Enhances quality of life**



**Personalized to each individual**



**Effects that last throughout the day**

# Why Non-Pharmaceutical Care Matters

A systematic review of **163 studies** showed that **non-pharmaceutical interventions** such as multidisciplinary care, massage, and touch therapy, and music were **more efficacious** than pharmaceutical interventions for **reducing aggression and agitation in people living with dementia.**

Full article:



# Depending on the behavior - there is a proven non-pharmaceutical therapy:

When residents experience...

- Agitation
- Aggression



**Outdoor therapy (nature)**

When residents experience...

- Aggression
- Agitation



**Massage and touch therapy**

When residents experience...

- Depression
- Anxiety
- Other neuropsychiatric symptoms



**Music Therapy**

When residents experience...

- Apathy
- Restlessness

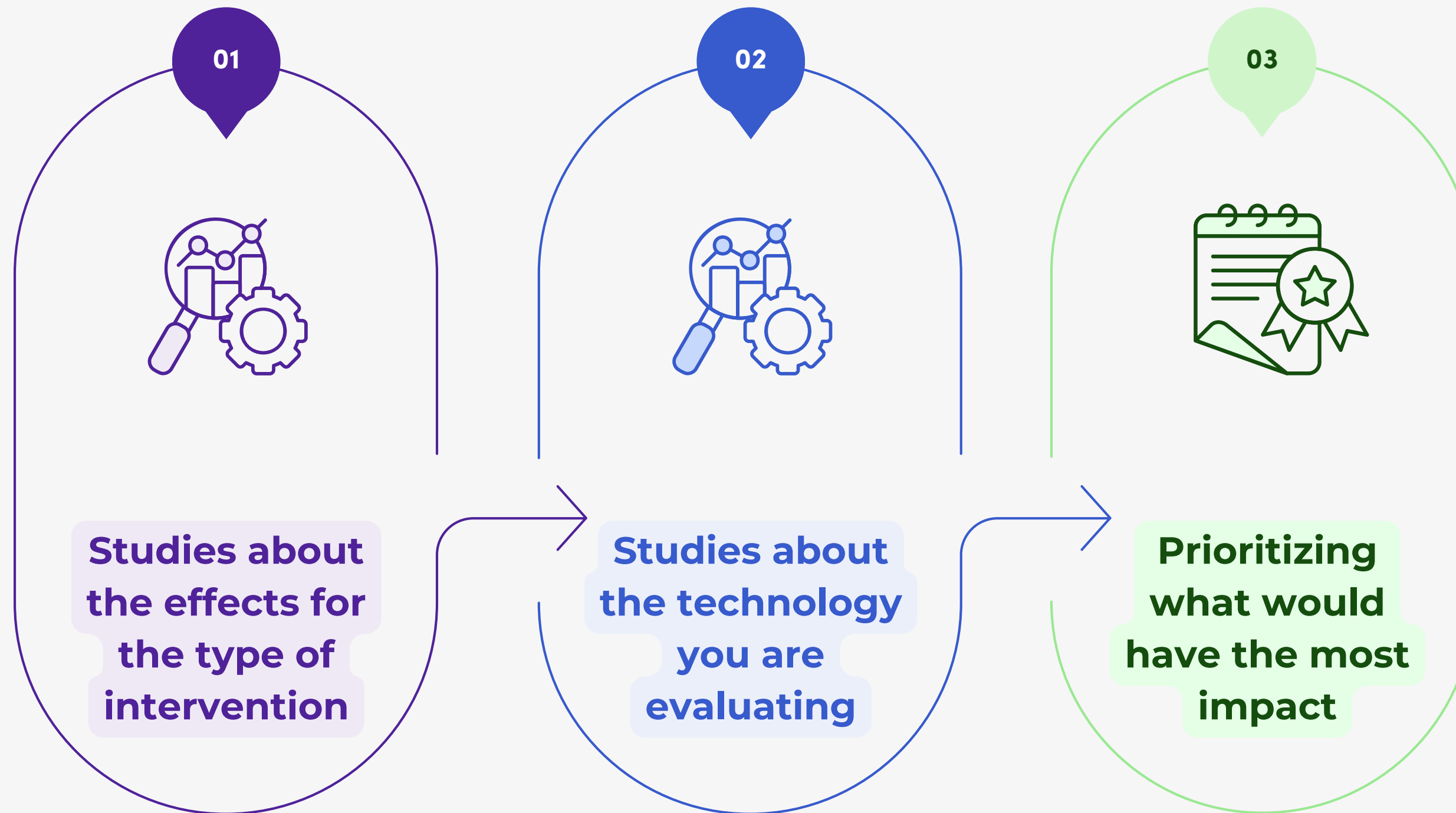


**Light Therapy**

**What expression of unmet needs are currently top of mind for your residents living with dementia?**



# How to Evaluate Interventions: A practical Framework





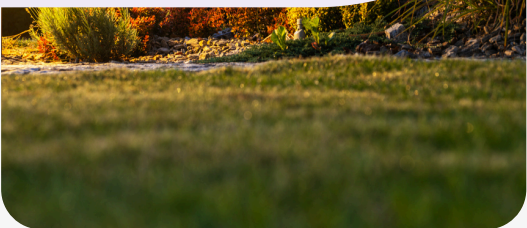


**Agitation**

**Self esteem**



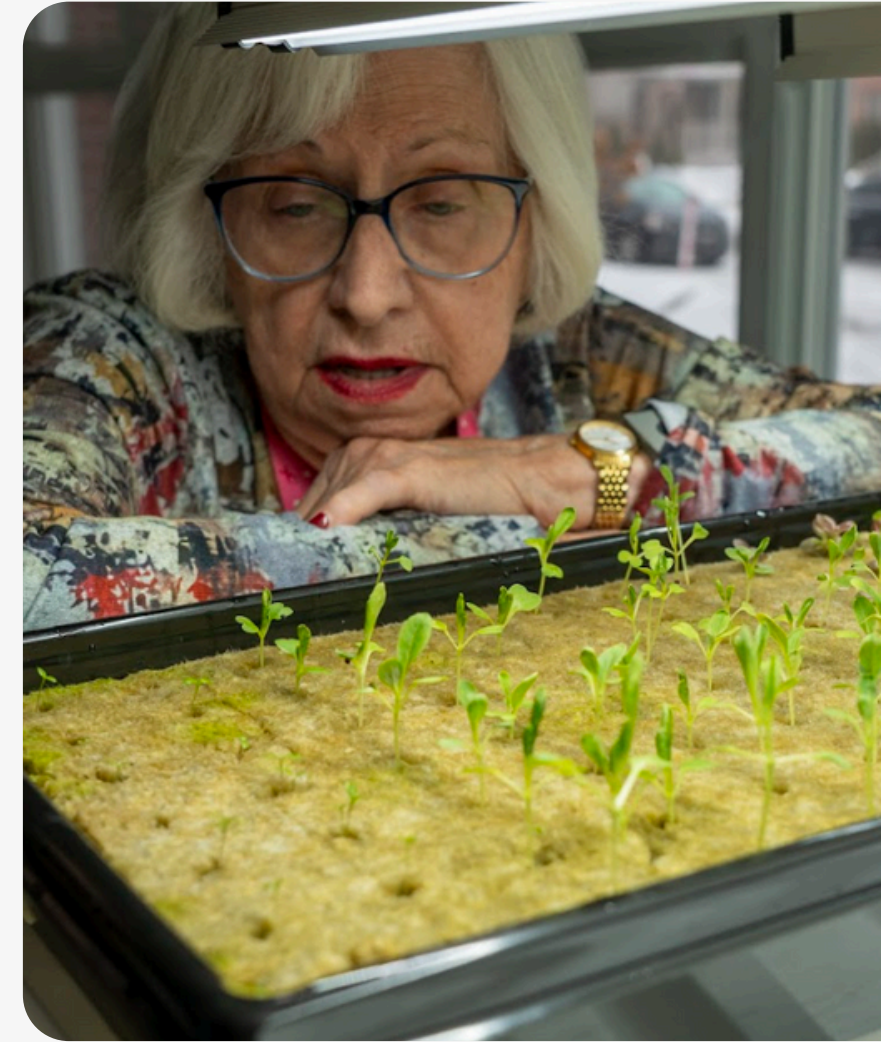
# Outdoors



**Depression**

# Gardening Therapy

- ✓ Agitation
- ✓ Stress level
- ✓ Self-esteem
- ✓ Depression
- ✓ Emotional state
- ✓ Engagement



# Benefits of gardening



- ✓ **Use old skills and hobbies**
- ✓ **Reminiscence**
- ✓ **Sense of accomplishment**
- ✓ **Sensory stimulation**
- ✓ **Physical activity**
- ✓ **Social activity**

# Something suprising



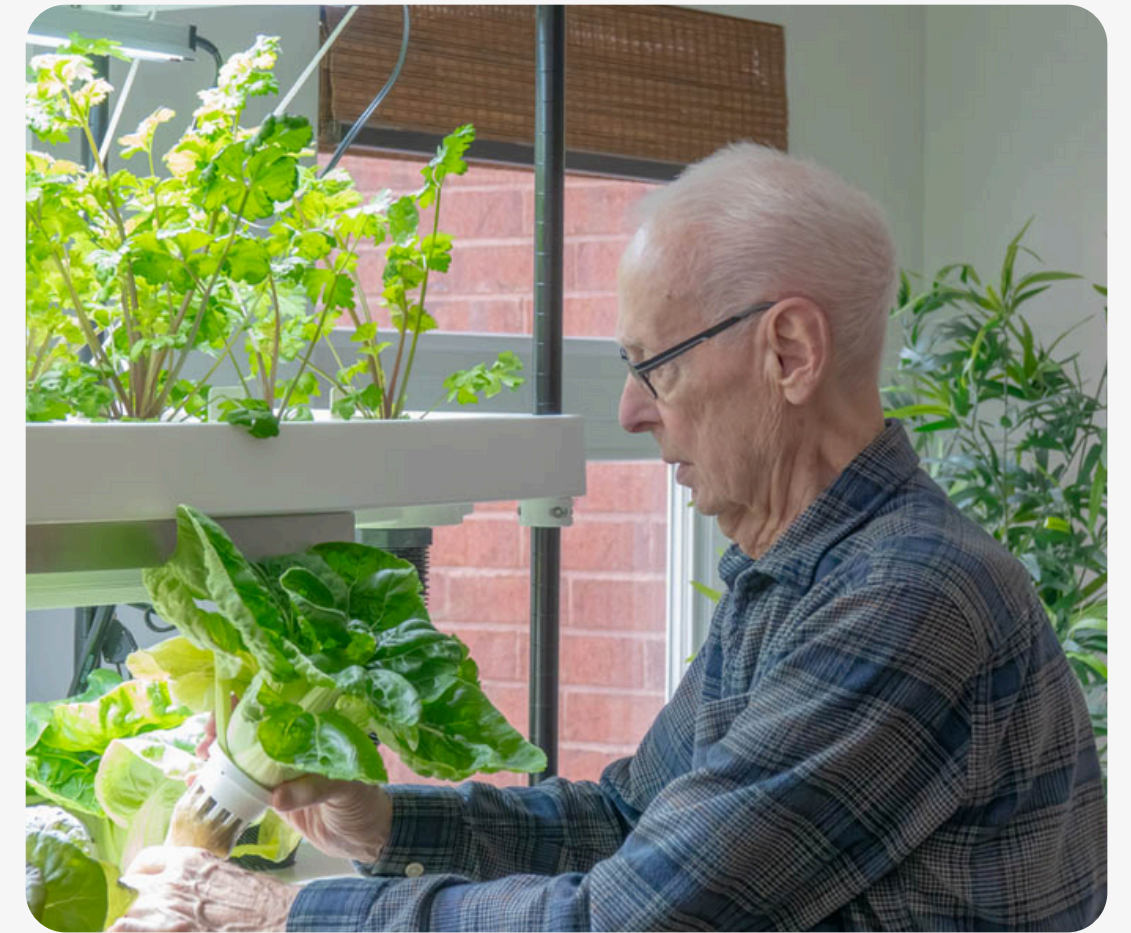
# Hypothesis for positive effects



**Use 5 senses**



**Sense of accomplishment**

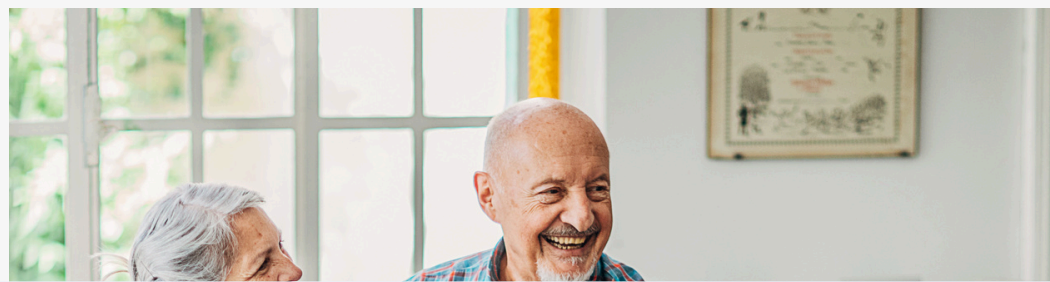
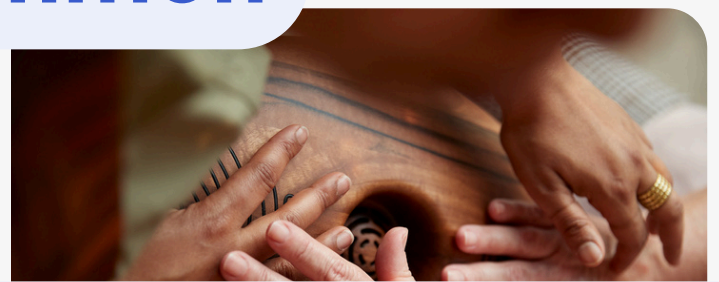
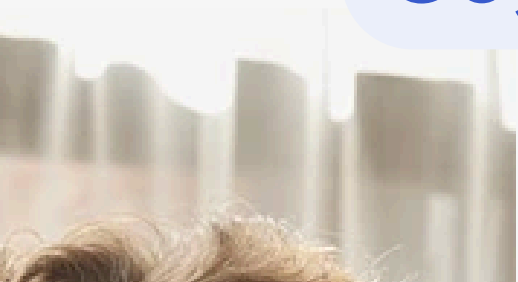


**Acquire new information, skills, challenges and make decisions**

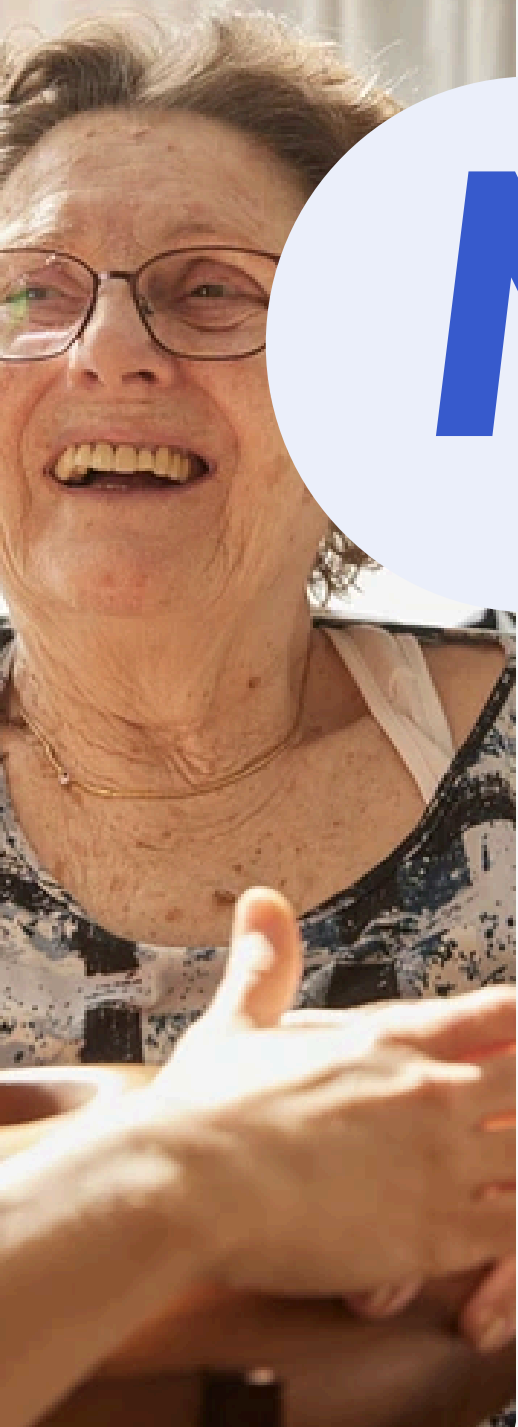


Cognition

Depression



# Music and Touch



Agitation



# Music Therapy

Systematic reviews of randomized controlled trials showed that music-based therapies significantly improved:



Cognition



Quality of life



Depression



Anxiety



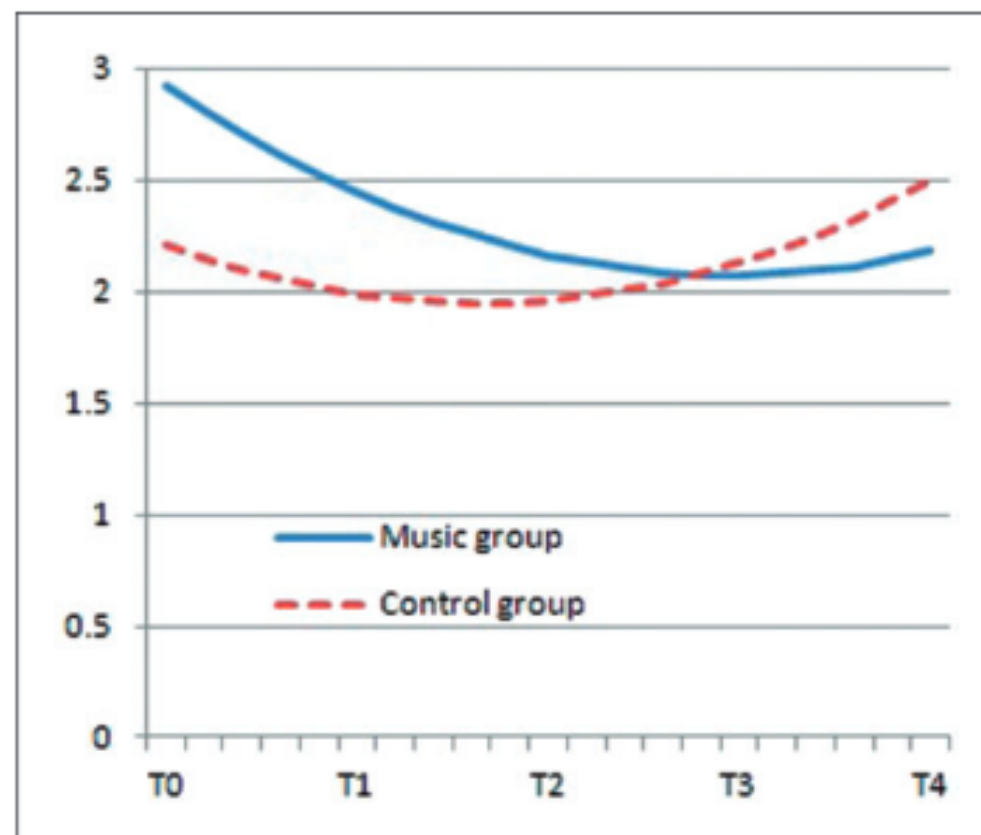
Other neuropsychiatric symptoms

Lin TH, Liao YC, Tam KW, Chan L, Hsu TH. Effects of music therapy on cognition, quality of life, and neuropsychiatric symptoms of patients with dementia: A systematic review and meta-analysis of randomized controlled trials. *Psychiatry Res.* 2023 Nov;329:115498. doi: 10.1016/j.psychres.2023.115498. Epub 2023 Sep 27. PMID: 37783097

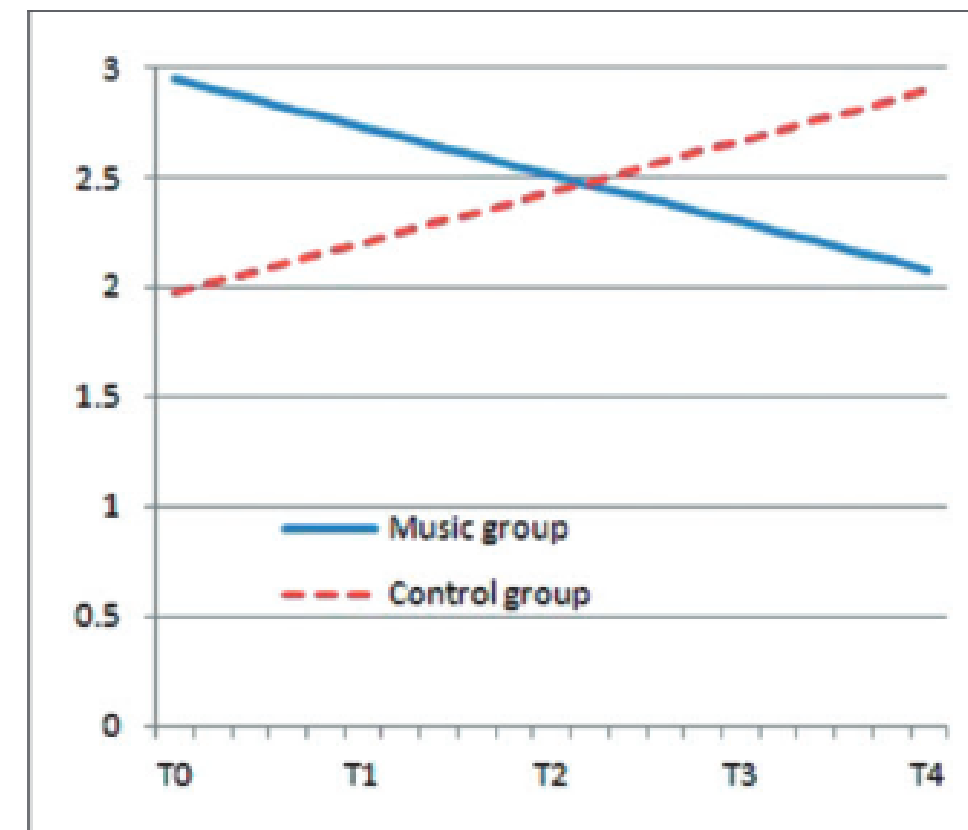
Lu LC, Lan SH, Lan SJ, Hsieh YP. Effectiveness of the Music Therapy in Dementia: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Dement Geriatr Cogn Disord.* 2024 Nov 13:1-20. doi: 10.1159/000542464. Epub ahead of print. PMID: 39536719.

# Music Therapy

A study aimed at evaluating the effects of music therapy on behavioral and psychological systems of dementia. Randomized trial including an intervention group (n= 40) and a control group (n=33).



**Figure 1:** Trajectories of **agitation** by treatment groups across time



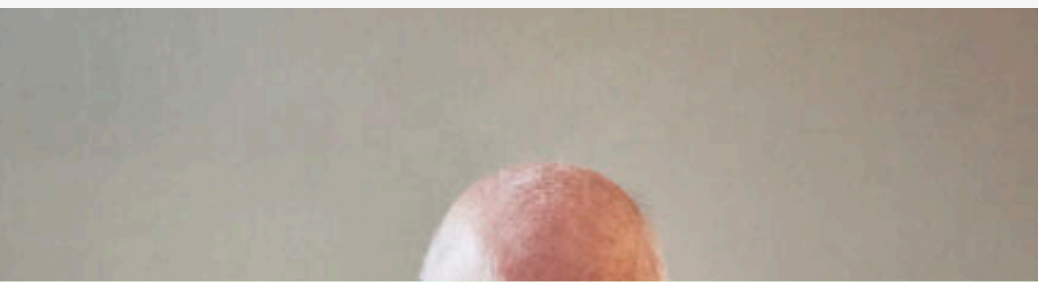
**Figure 2:** Trajectories of **aberrant behavior** by treatment groups across time



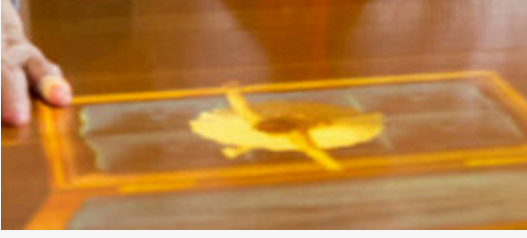


**Agitation**

**Apathy**



# Games and Light



**Positive emotions**



# Research for dementia: the environment



## Environment

Scientific reviews of literature helped understand what to include in the design for people living with dementia

- Positive results found for music, functional modifications to the environment and more homelike approach
- Multisensory stimulations have positive effect with limited access in some environment
- **Wandering often a result of under-stimulation**

**By enriching the environment for example by means of multisensory stimulation you could reduce the chance of boredom and undesirable behaviors**

# Research for dementia: Social



## Social

Scientific reviews of literature helped understand what to include in the design for people living with dementia

- Difference between careworkers, need to be included in the design
- Social interaction between residents was hampered by a lack of common background, differences in lifestyle and social norms
- Social interaction between residents can have both a direct and indirect (via atmosphere) stimulating effect on the physical activity of residents

**An external stimulus is required to invite residents to interact socially with each other**

**Does your current common room design support the possibility of implementing those approaches at any time, including weekends and evenings?**



# The goal is to design for two scenarios

**1) where the required brain areas are relatively intact**

**2) are slightly affected but may still be able to respond to external stimulus**

<p><b>Relaxation</b></p> <p>Experience of unwinding, relaxation or stress relief. Calmness during play</p>	<p><b>Captivation</b></p> <p>Experience of forgetting one's surroundings</p>	<p><b>Challenge</b></p> <p>Experience of having to develop and exercise skills in a challenging situation</p>	<p><b>Control</b></p> <p>Experience of power, mastery, control, or virtuosity</p>
<p><b>Sensation</b></p> <p>Meaningful sensory experience</p>	<p><b>Eroticism</b></p> <p>Experience of sexual pleasure or arousal</p>	<p><b>Competition</b></p> <p>Experience of victory-oriented competition against oneself, opponent or system</p>	<p><b>Discovery</b></p> <p>Experience of discovering a new solution, place, or property</p>
<p><b>Reminiscence</b></p> <p>Recollecting past experiences or events (Cotelli et al., 2012)</p>	<p><b>Expression</b></p> <p>Experience of creating something or expressing oneself in a creative fashion</p>	<p><b>Subversion</b></p> <p>Experience of breaking social roles, rules, and norms</p>	<p><b>Exploration</b></p> <p>Experience of exploring or investigating a world, affordance, puzzle, or situation</p>
<p><b>Nurture</b></p> <p>Experience of nurturing, grooming, or caretaking</p>	<p><b>Fellowship</b></p> <p>Experience of friendship, fellowship, communality or intimacy</p>	<p><b>Sympathy</b></p> <p>Experience of sharing emotional feelings</p>	<p><b>Fantasy</b></p> <p>Experience of make-believe involving fantastical narratives, worlds, or characters</p>
<p><b>Simulation</b></p> <p>Experience of perceiving a representation of everyday life</p>	<p><b>Humour</b></p> <p>Fun, joy, amusement, jokes, gags (Lucero &amp; Arrasvuori, 2010)</p>	<p><b>Completion</b></p> <p>Experience of completion, finishing and closure, in relation to an earlier task or tension</p>	<p><b>Thrill</b></p> <p>Experience of thrill derived from an actual or perceived danger or risk</p>

# Play suitable for all stages



## Sensory stimulation

The input and sensation you receive when one or more of your senses is activated



## Relaxation

Experience of unwinding, relaxation or stress relief.  
Calmness during play



## Reminiscence

Recollecting past experiences or events  
(Cotelli et al., 2012)

# Play suitable for the early and mid stages

## Sympathy

Experience of sharing emotional feelings

## Nurture

Experience of nurturing, grooming, or caretaking

## Humour

Fun, joy, amusement, jokes, gags  
(Lucero & Arrasvuori, 2010)

## Fellowship

Experience of friendship, fellowship, communality or intimacy

## Expression

Experience of creating something or expressing oneself in a creative fashion

## Eroticism

Experience of sexual pleasure or arousal

## Subversion

Experience of breaking social roles, rules, and norms

## Challenges

Experience of having to develop and exercise skills in a challenging situation



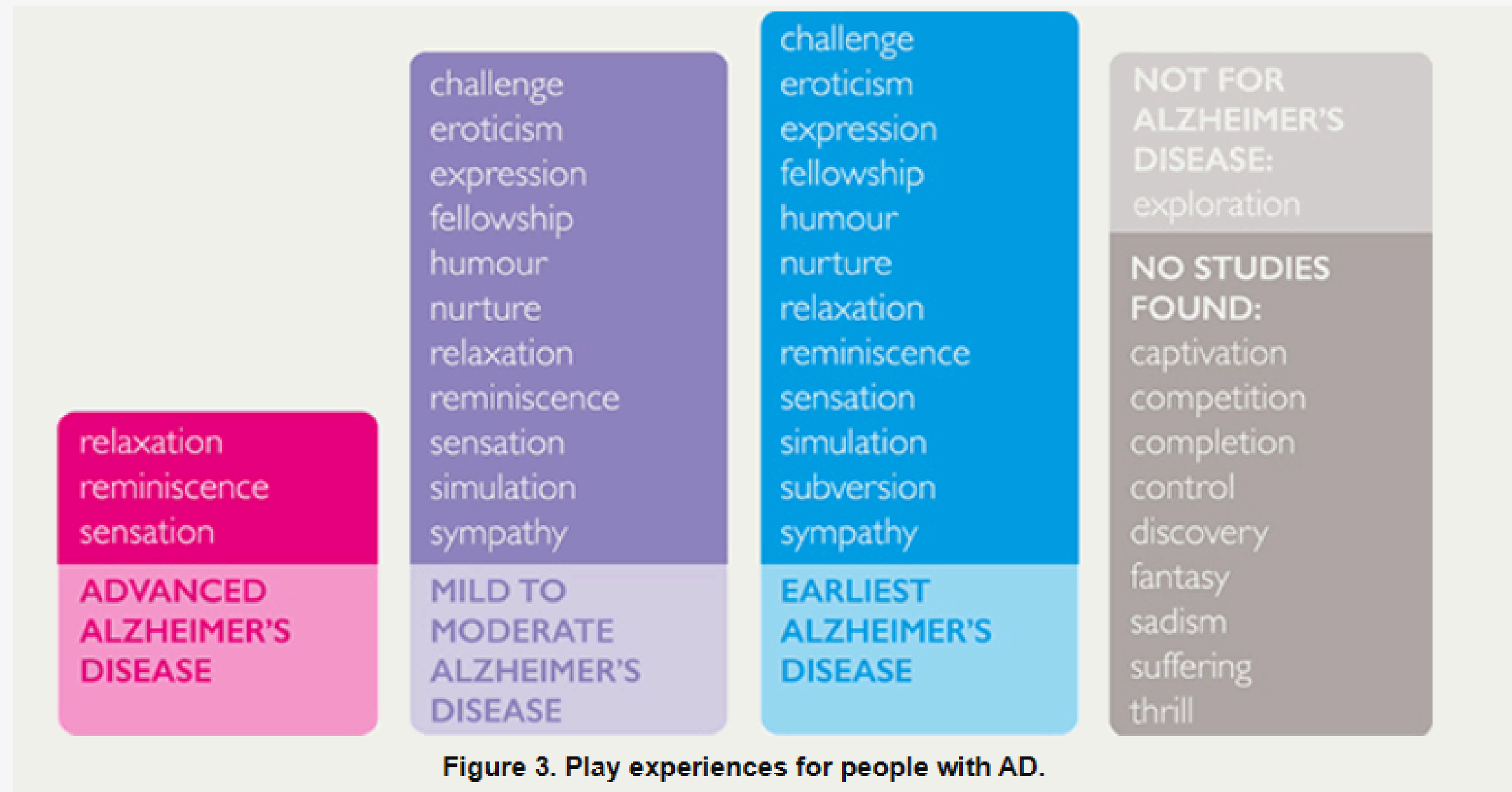
# Play not suitable at any stage in the disease

## Exploration

Experience of exploring or investigating a world, affordance, puzzle, or situation



# Summary of the results



# The Tovertafel Effects: Academic Research Unveils the Impact



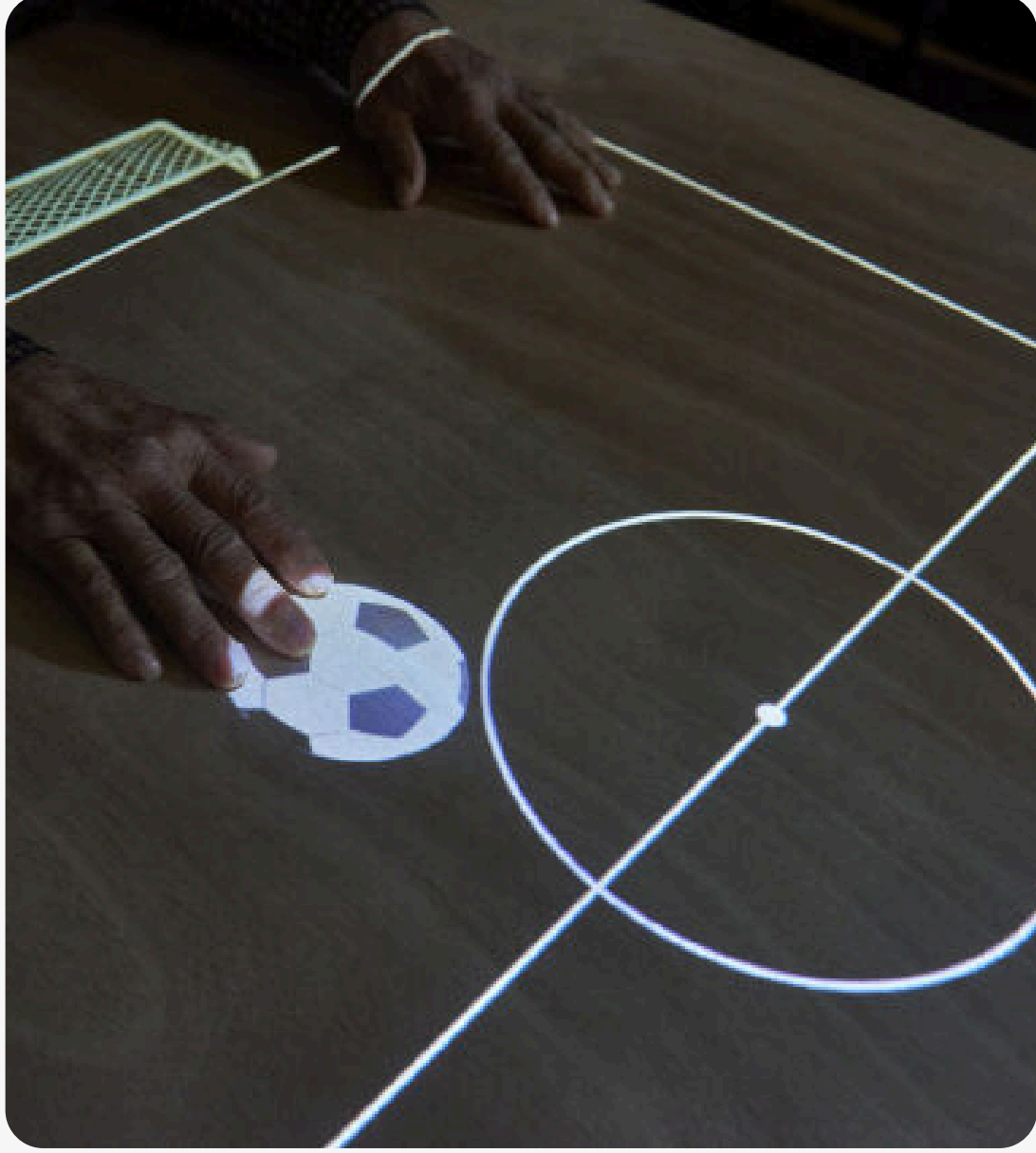
## For the resident:

- Breaks through apathy
- Increases physical activity
- Reduces negative emotions and increases positive emotions
- Reduces agitated and tense behaviors
- Increases social activity and contributes to more enjoyment

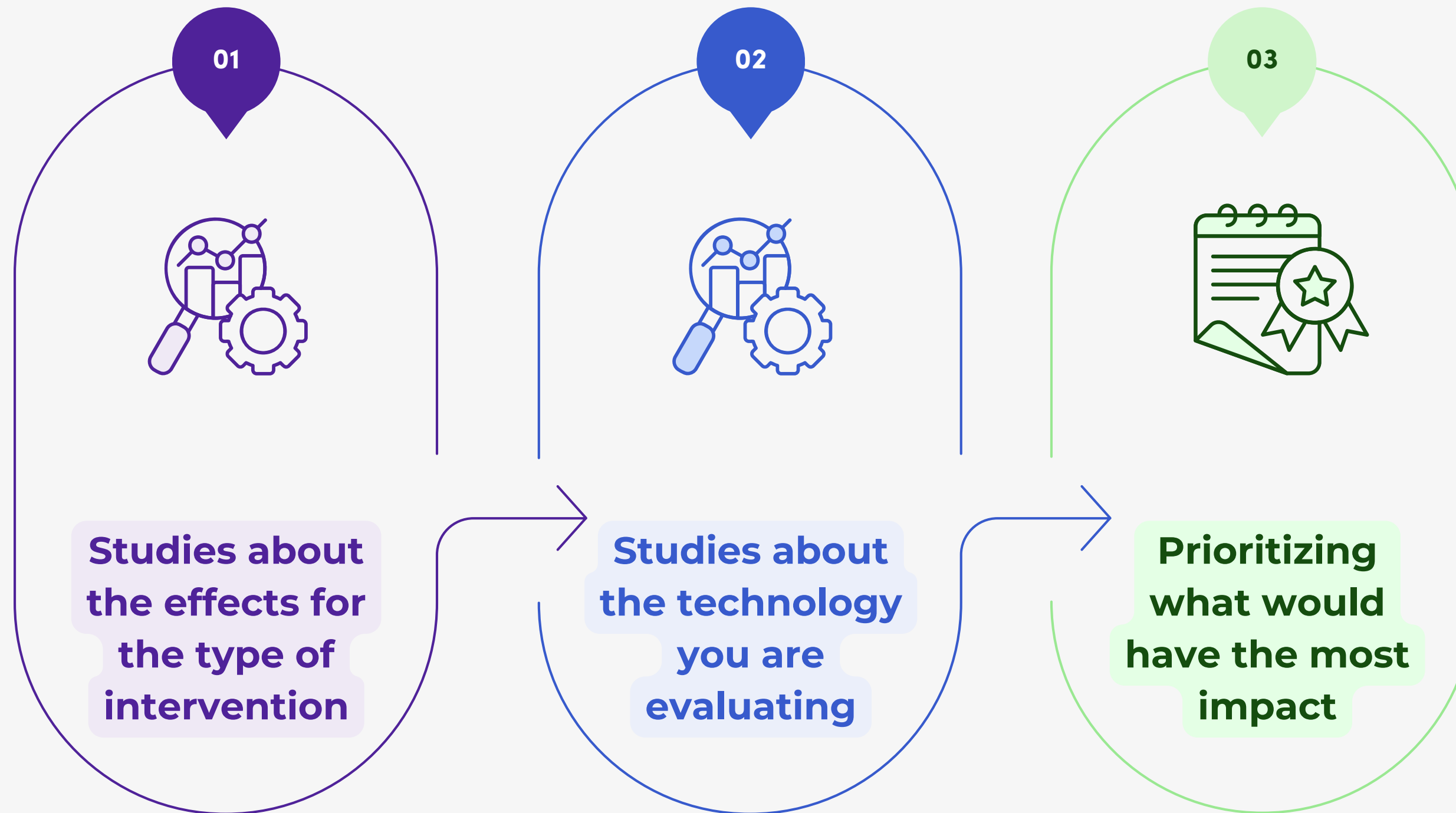
## For the care staff:

- Improves the relationship between care workers and residents
- Increases well-being at work
- Improves interactions and helps build new connections





# How to Evaluate Interventions: A practical Framework



# Innovations backed by their research

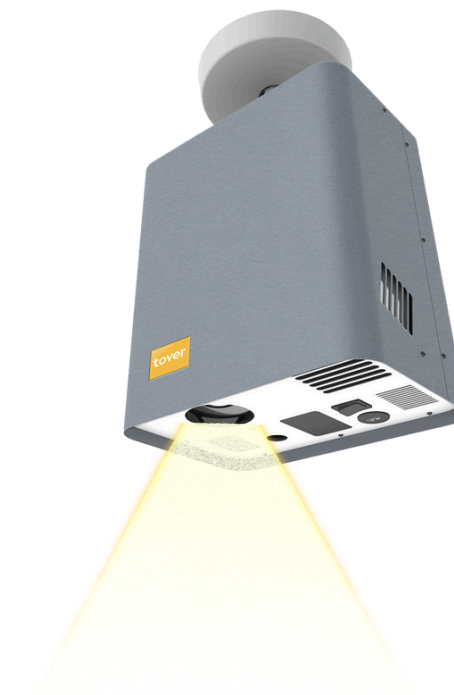


**iN2L™**  
spark • engage • shine



**The use of It's Never Too Late technology (iN2L) in enhancing well-being among the elderly in a residential setting.**

Upton, Julia & Kramarz, Alexis & Supey, Mary & Gousse, Yolene. (2020). Journal of Women & Aging.



**tover**  
purposeful play



**Playful Design for Activation: Co-designing serious games for people with moderate to severe dementia to reduce apathy.**

Anderiesen, H. (2017). [Dissertation (TU Delft), Delft University of Technology].



**HUG**  
by  
**LAUGH**



**Sometimes a HUG is all you need**

Treadaway, C., Pool, J. and Johnson, A. (2020)

**HUG: A Compassionate Approach to Designing for Wellbeing in Dementia Care**

Treadaway, C., Seckam, A., Fennell, J. and Taylor, A. (2023)



**Crddl®**



**Reconnecting People with Dementia by Using the Interactive Instrument CRDL.**

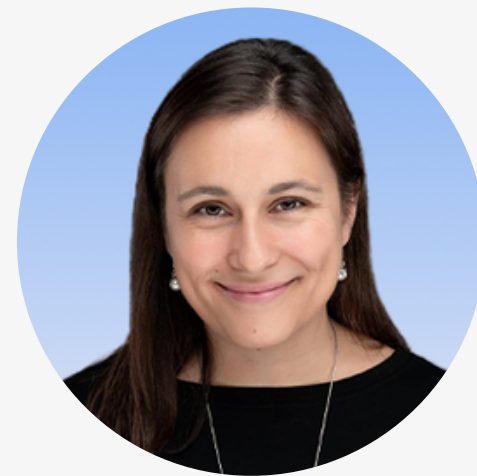
Teunissen L, Luyten T, de Witte L. Stud Health Technol Inform. 2017;242:9-15. PMID: 28873769.

**Is everyone who needs to be aware of these  
non-pharmaceutical approaches properly  
informed about them?**



# Want to receive the links to the research presented during this webinar?

Subscribe to our newsletter!



eugeria

Valerie Larochelle  
*CEO, Cofounder*



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Managing resident behaviors that negatively impact themselves or others is a critical aspect of dementia care. These behaviors, such as wandering, aggression, or apathy, can disrupt daily routines and affect the overall well-being of the community. In this session, Valerie Larochelle, CEO of Euforia, will delve into innovative, evidence-based strategies that address these challenges without relying on pharmaceutical interventions.

The presentation will highlight approaches to create calming environments, gardening programs that promote engagement and sensory stimulation, and adapted activities to channel energy positively. Emerging technologies will also be explored, offering new ways to manage behaviors while fostering connection and cognitive stimulation. Attendees will learn how to evaluate the effectiveness of these interventions and integrate them into their care models to address challenging behaviors proactively. The session will emphasize the importance of tailoring solutions to individual needs, fostering environments that promote safety, engagement, and emotional well-being.

Through actionable insights and practical frameworks, this session equips senior living professionals with tools to transform behavioral management into an opportunity for meaningful connection and improved quality of life for residents and the broader care community.