Bereavement, Grief, and Healthy Aging: What Your Participation in WHI Has Taught Us

WHI Participant Seminar · October 21sr, 2026

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Outline

1) Scope of bereavement and grief
2) Current models of grief and bereavement
3) Findings in WHI
4) Resources and practical tips during grief

Bereavement is typically treated as an individual, private matter.

However, social and population factors profoundly shape experiences of and reaction to loss.

Widowhood Among Older Americans

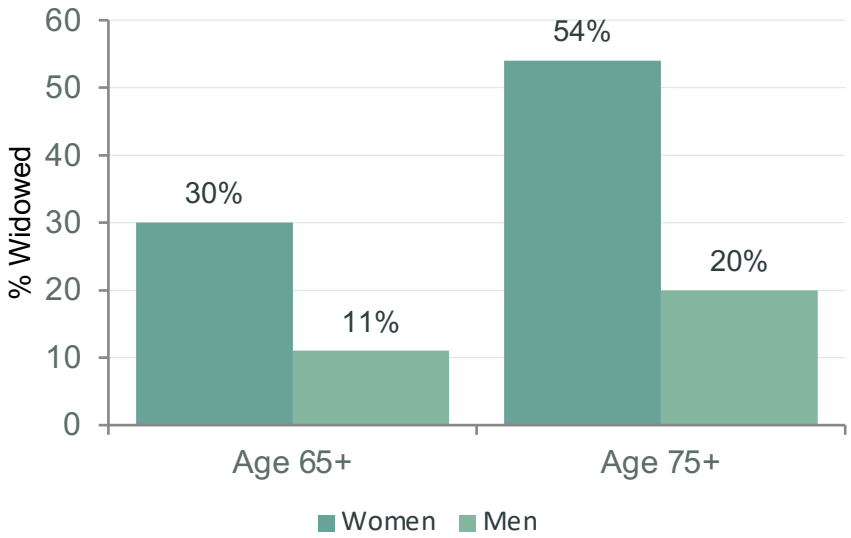
Many people experience the death of a spouse or partner and this is more common for women than men

41% of all people age 65+ are widowed

9.1M vs 2.7M widows vs. widowers age 65+ — more than 3x as many women

30% vs 11% of older women vs. older men (65+) are widowed

Percent Widowed, by Sex and Age Group



Sources: Administration for Community Living / U.S. Dept. of Health and Human Services, 2021 Profile of Older Americans; U.S. Census Bureau, 2021 Current Population Survey, Annual Social and Economic Supplement.

Risk and Resilience Model of Grief & Bereavement

- Most people who experience the death of a loved one DO NOT experience enduring difficulty.
- Resilience from loss has been observed in many, many studies
- This conflicted with early models of grief as disabling and enduring

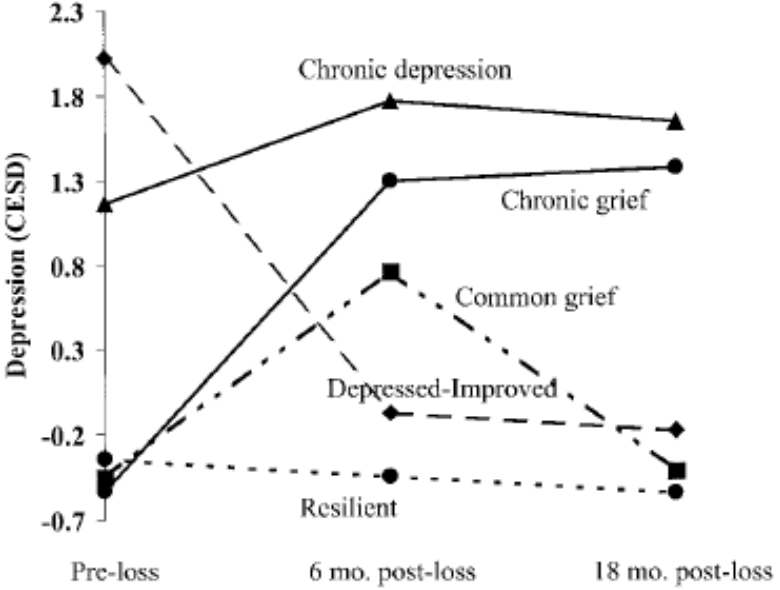


Figure 1. Patterns of depression (Center for Epidemiologic Studies Depression [CES-D] scores) from preloss to 18-months postloss ($N = 185$).

Bonanno, G. A., Wortman, C. B., Lehman, D. R., Tweed, R. G., Haring, M., Sonnega, J., ... & Nesse, R. M. (2002). Resilience to loss and chronic grief: a prospective study from preloss to 18-months postloss. *Journal of personality and social psychology*, *83*(5), 1150.

Grief as a Form of Love: Attachment Perspective



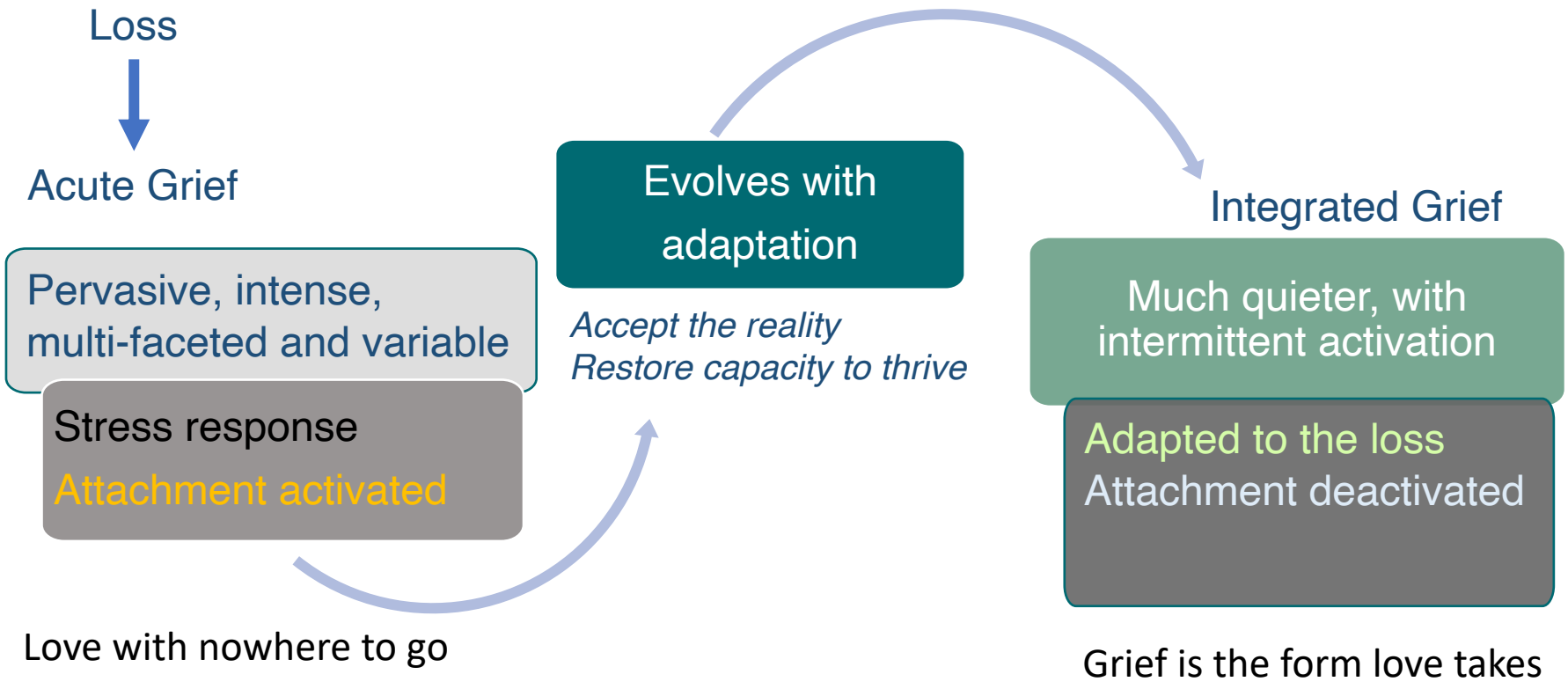
Katherine Shear, MD

The close relationships we develop with special people in our lives are at the heart of what we care about most deeply and bereavement brings our most profound experiences of pain.

- Grief is not as a disorder or weakness, but as a biologically grounded, universal response to loss.
- Because loved ones are intertwined with our sense of self, their loss causes profound
  - emotional,
  - cognitive, and
  - physiological disruption
- Grief reflects the impact of losing someone who shaped our identity and daily regulation.

Shear, M. K. (2015). Grief is a form of love. In *Techniques of Grief Therapy* (pp. 14-18). Routledge.

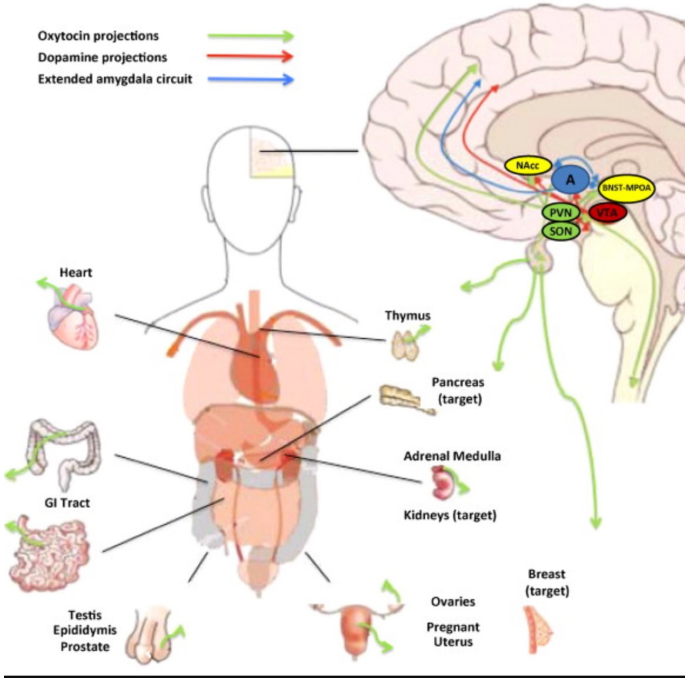
The way we think about Grief



Slide courtesy of Kathy Shear

Attachment Encoding: Social Motivation

- At the time of bond formation, changes in Nac during mating increase oxytocin receptors
- Signaling initiated by oxytocin, dopamine, endogenous opioids, and AVP are required for partner preference and monogamy.
- Attachment system affords the prediction of the persistence of a loved one
- Cortisol released during separation, linked to motivation to seek mate to relieve distress



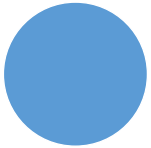
Gordon, I., Martin, C., Feldman, R., & Leckman, J. F. (2011). Oxytocin and social motivation. *Developmental cognitive neuroscience*, *1*(4), 471-493.

Grief as Learning

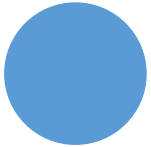
- Recent work suggests grief is not just emotional suffering, but a neurobiological learning process.
- The brain must update its internal model to reflect the loss of a loved one.
- Grief involves reshaping expectations and learning to live in a changed reality.



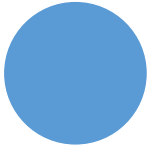
Mary Frances O'Connor



Brain adapts to loss



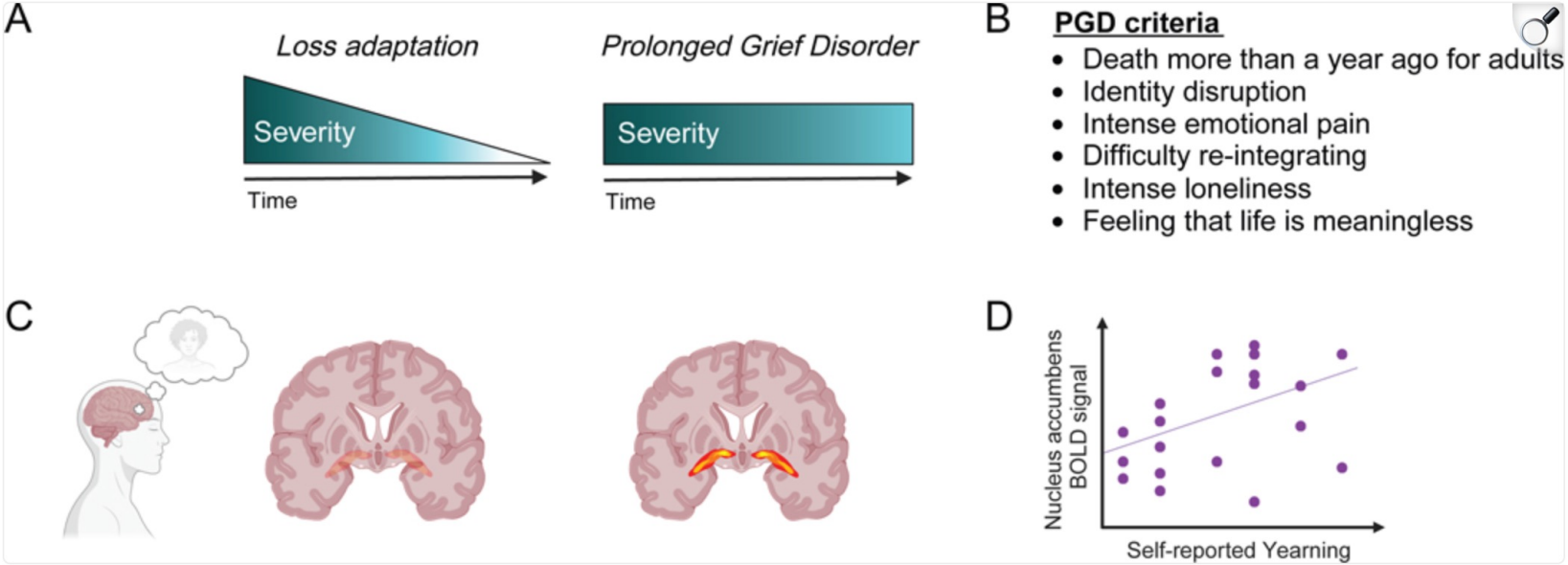
Grief as learning process



Internal models reshaped

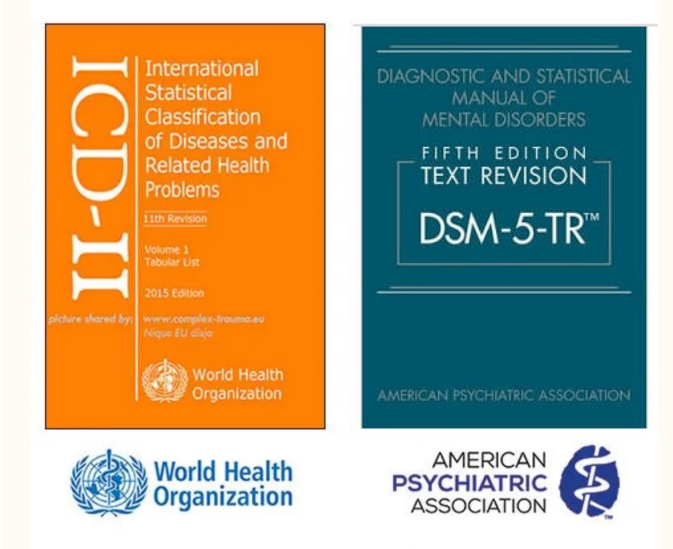
O'Connor MF, Seeley SH. Grieving as a form of learning: Insights from neuroscience applied to grief and loss. Curr Opin Psychol. 2022;43:317-322.

Neural changes after loss: adaptation vs. disorder



Sadino JM, Donaldson ZR. Prairie voles as a model for adaptive reward remodeling following loss of a bonded partner. Ann N Y Acad Sci. 2024 May;1535(1):20-30. doi: 10.1111/nyas.15134. Epub 2024 Apr 9. PMID: 38594916; PMCID: PMC11334365.

PGD is now a diagnostic code in ICD-11 and DSM-5TR



PROLONGED GRIEF DISORDER

TIPS FOR UNDERSTANDING THE NEWEST ADDITION TO THE DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS

WHAT IS PGD?

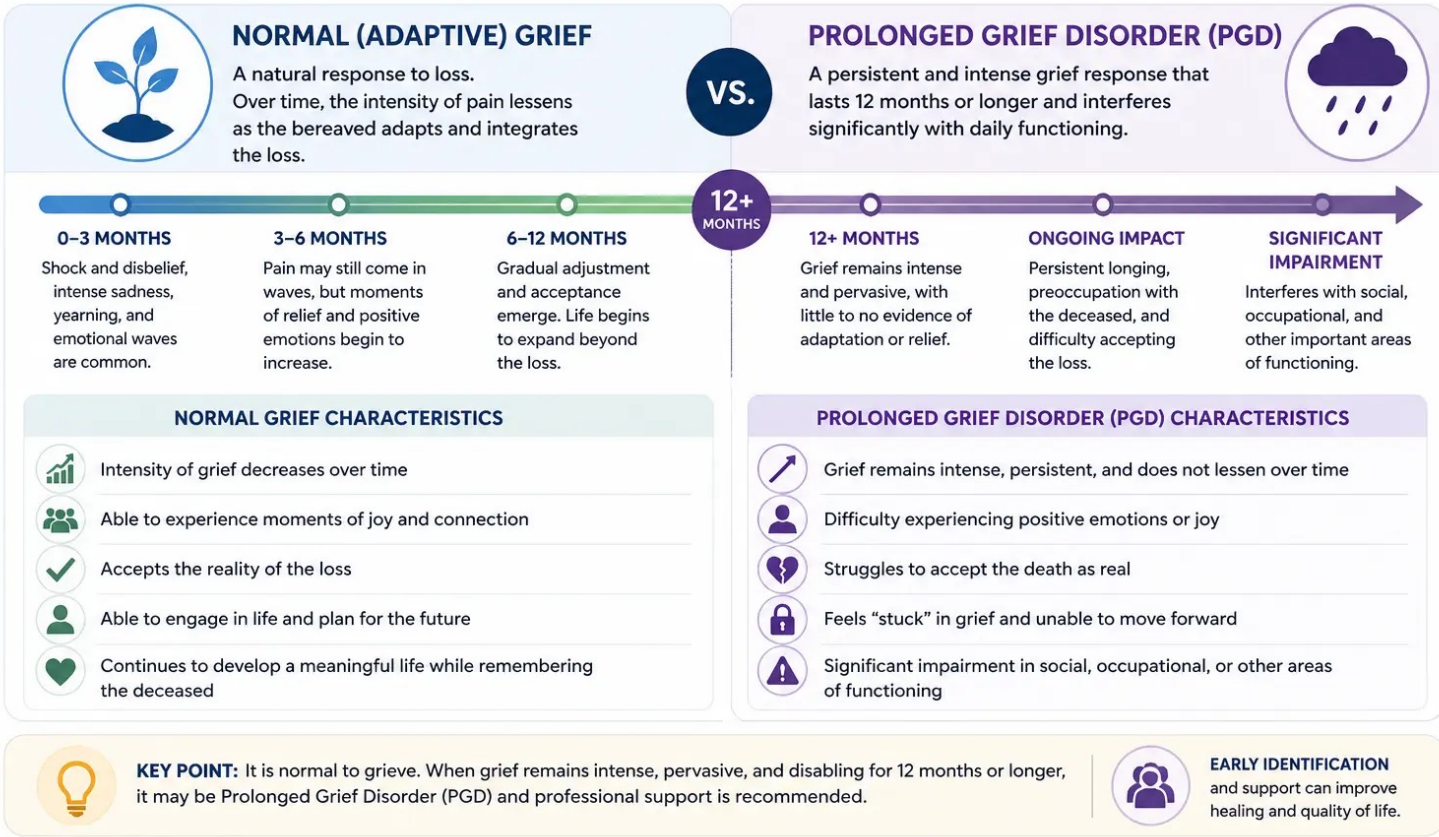
Prolonged grief disorder happens when someone loses someone close, and they experience an intense yearning/longing for or preoccupation with the deceased person. Their bereavement lasts longer than social norms and causes distress or problems functioning.

SYMPTOMS

- Identity disruption (e.g., feeling as though part of oneself has died).
- Marked sense of disbelief about the death.
- Avoidance of reminders that the person is dead.
- Intense emotional pain (e.g., anger, bitterness, sorrow) related to the death.
- Difficulty with reintegration.
- Emotional numbness.
- Feeling that life is meaningless.
- Intense loneliness (i.e., feeling alone or detached from others).

Grief vs. Prolonged Grief Disorder (PGD)

Understanding the Difference in Duration, Intensity, and Impact



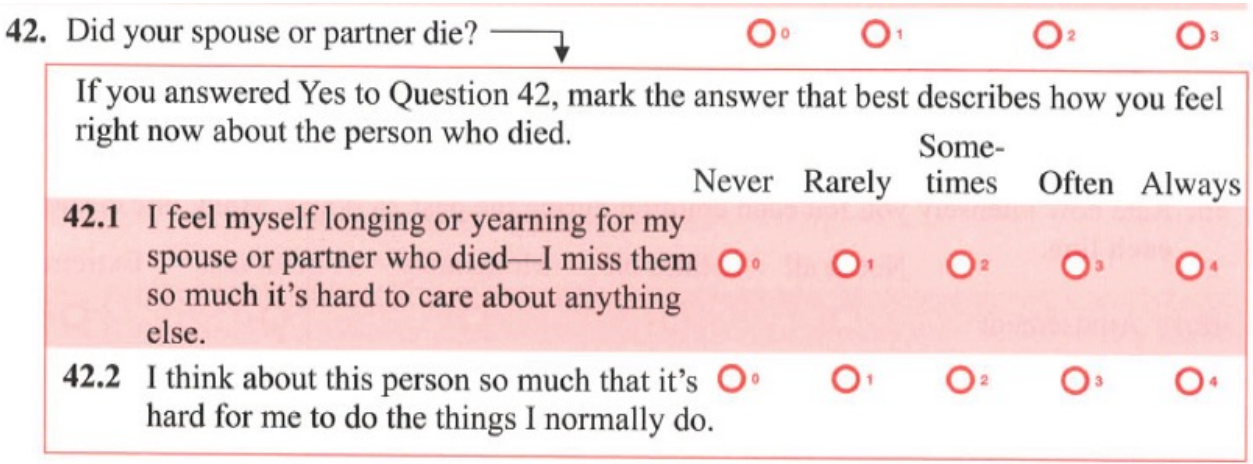
https://www.icanotes.com/2024/06/12/understanding-post-traumatic-stress-disorder-and-grief/

Women's Health Initiative Study



A longitudinal study of 161,808 post-menopausal women aged 50–79 years originally recruited between 1993 and 1998 at 40 clinical centers across the United States.

One of the only longitudinal cohorts of its size to have assessed grief



42.	Did your spouse or partner die? →	○0	○1		○2	○3

If you answered Yes to Question 42, mark the answer that best describes how you feel right now about the person who died.

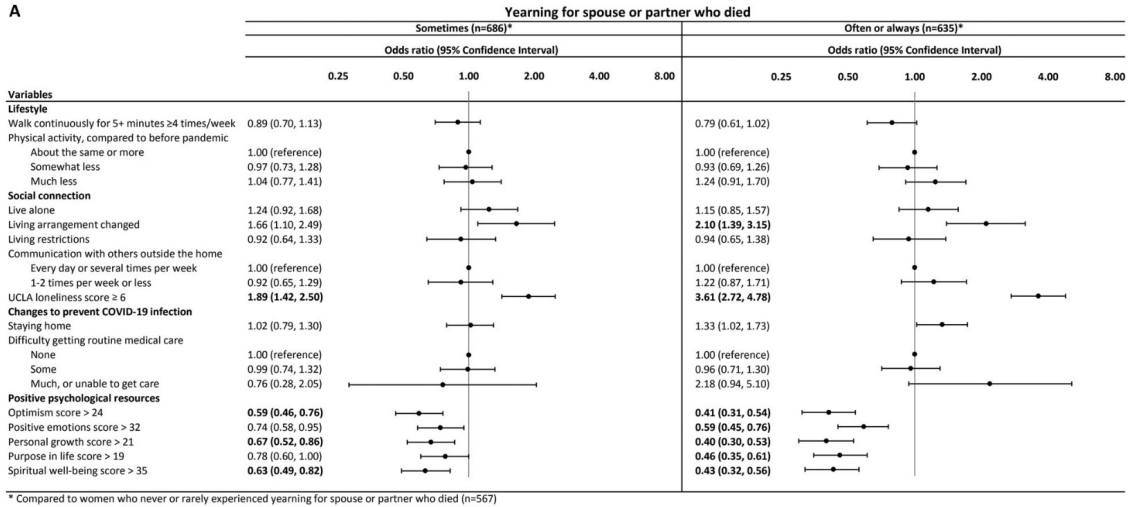
		Never	Rarely	Some-times	Often	Always
42.1	I feel myself longing or yearning for my spouse or partner who died—I miss them so much it's hard to care about anything else.	○0	○1	○2	○3	○4
42.2	I think about this person so much that it's hard for me to do the things I normally do.	○0	○1	○2	○3	○4

Grief symptoms assessed in Forms 151B, in 2019, N ~ 43,000–45,000

2021 - Bereavement and Grief Study (Goveas et al, 2026)

Women reporting spousal/partner loss (n = 1946)

In adjusted models, **changes in living arrangement, severe loneliness, social isolation** were associated with greater odds of intense yearning.



A

Variables	Yearning for spouse or partner who died: Sometimes (n=686)* Odds ratio (95% Confidence Interval)	Yearning for spouse or partner who died: Often or always (n=635)* Odds ratio (95% Confidence Interval)
Lifestyle		
Walk continuously for 5+ minutes ≥4 times/week	0.89 (0.70, 1.13)	0.79 (0.61, 1.02)
Physical activity, compared to before pandemic		
About the same or more	1.00 (reference)	1.00 (reference)
Somewhat less	0.97 (0.73, 1.28)	0.93 (0.69, 1.26)
Much less	1.04 (0.77, 1.41)	1.24 (0.91, 1.70)
Social connection		
Live alone	1.24 (0.92, 1.68)	1.15 (0.85, 1.57)
Living arrangement changed	1.66 (1.10, 2.49)	**2.10 (1.39, 3.15)**
Living restrictions	0.92 (0.64, 1.33)	0.94 (0.65, 1.38)
Communication with others outside the home		
Every day or several times per week	1.00 (reference)	1.00 (reference)
1-2 times per week or less	0.92 (0.65, 1.29)	1.22 (0.87, 1.71)
UCLA loneliness score ≥ 6	**1.89 (1.42, 2.50)**	**3.61 (2.72, 4.78)**
Changes to prevent COVID-19 infection		
Staying home	1.02 (0.79, 1.30)	1.33 (1.02, 1.73)
Difficulty getting routine medical care		
None	1.00 (reference)	1.00 (reference)
Some	0.99 (0.74, 1.32)	0.96 (0.71, 1.30)
Much, or unable to get care	0.76 (0.28, 2.05)	2.18 (0.94, 5.10)
Positive psychological resources		
Optimism score > 24	**0.59 (0.46, 0.76)**	**0.41 (0.31, 0.54)**
Positive emotions score > 32	0.74 (0.58, 0.95)	**0.59 (0.45, 0.76)**
Personal growth score > 21	**0.67 (0.52, 0.86)**	**0.40 (0.30, 0.53)**
Purpose in life score > 19	0.78 (0.60, 1.00)	**0.46 (0.35, 0.61)**
Spiritual well-being score > 35	**0.63 (0.49, 0.82)**	**0.43 (0.32, 0.56)**

0.25 0.50 1.00 2.00 4.00 8.00

* Compared to women who never or rarely experienced yearning for spouse or partner who died (n=567)

Goveas, J. S., Ray, R. M., Pai, M., Shadyab, A. H., Mouton, C., Saquib, N., ... & Al-Delaimy, W. K. (2026). Changes in social connection, physical activity, and positive psychological attributes associated with grief-related symptoms and depression among bereaved older women during COVID-19. *Death Studies*, 1-16.

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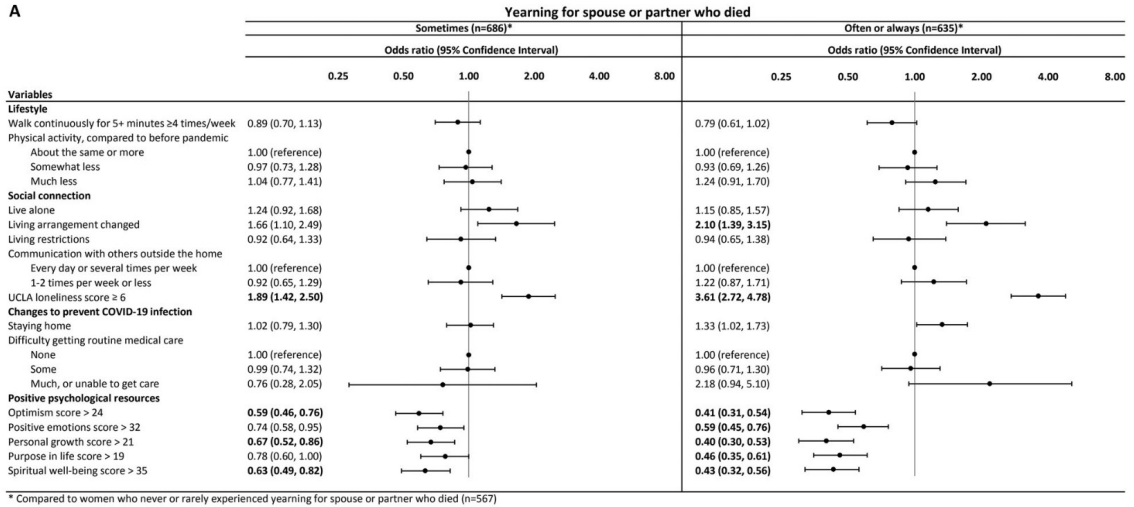
In adjusted models, psychological assets were associated with lower odds of intense yearning.

Walking was associated with lower odds of depressive symtoms.



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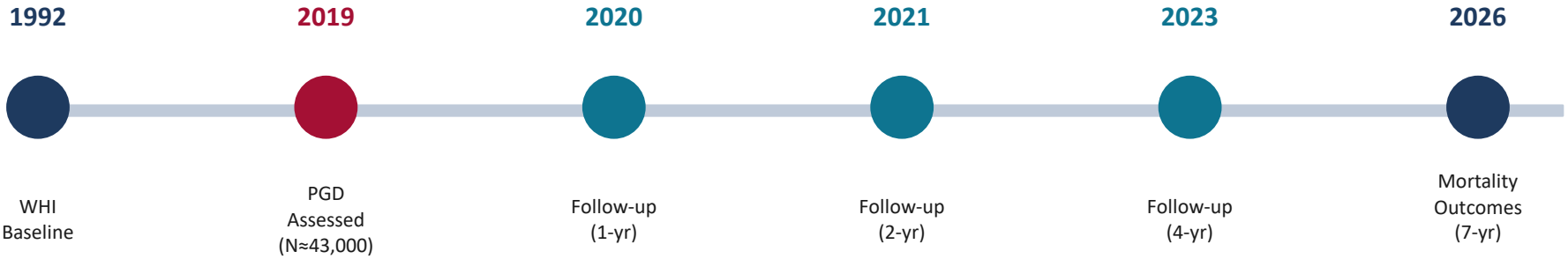
Future Bereavement Studies in WHI: Longterm health outcomes of bereavement



Research Questions

Does bereavement confer additional risk for poor health outcomes, especially cardiovascular risk?

What lifestyle and health assets can help offset that risk?

Inclusion & Analysis Plan

- Bereavement event (spouse/partner loss)
- Completion of validated PGD measures (Form 151B)
- ≥1 year follow-up post-baseline grief assessment
- Cox models; Kaplan-Meier survival curves
- Sensitivity: IPCW, competing risk models

What can help in times of grief and loss?

Build and Maintain Social Connections

A 2008 study found that older adults in Japan who attended community social groups ('salons') experienced:

Improved self-rated health over time

-results held true even when removing the influence of other factors like age, sex, and prior health.

Ichida Y, Hirai H, Kondo K, Kawachi I, Takeda T, Endo H. Does social participation improve self-rated health in the older population? A quasi-experimental intervention study. Soc Sci Med. 2013 Oct;94:83-90.

Sense of Purpose and Optimism Associated with Improved Physical Function

A study found that having a higher "purpose in life" score is linked to:

- Better physical function in older adults,
- Stronger grip strength over time
- Faster walking speed over time

Kim ES, Kawachi I, Chen Y, Kubzansky LD. Association Between Purpose in Life and Objective Measures of Physical Function in Older Adults. JAMA Psychiatry. 2017 Oct 1;74(10):1039-1045.

Mindfulness & Relaxation Training

Randomized controlled trial of Mindfulness Training (MT) and Progressive Muscle Relaxation (PMR) in bereaved spouses

Study Design

94 widow(er)s randomly assigned to a 6-week group Mindfulness Training (MT), group Progressive Muscle Relaxation (PMR), or wait-list. Outcomes assessed at baseline, post-intervention, and 1-month follow-up.

Sample

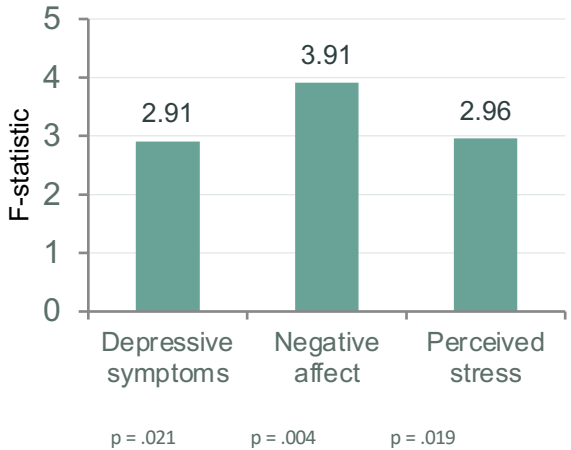
Older adults (M age = 67.5 yrs), mostly women (71%) and White (98%), widowed for an average of 14.8 months.

Key Findings

- Compared to wait-list, MT and PMR led to greater reductions in depressive symptoms and negative affect from baseline to post-intervention.
- MT also showed greater reduction in perceived stress from baseline to 1-month follow-up compared to wait-list.
- No other significant between-condition differences emerged (e.g., positive affect, mindfulness, coping flexibility, sleep quality, life satisfaction, loneliness).

Both MT and PMR offer psychological benefits for bereaved spouses, but in the context of prior research, PMR appears to improve a wider range of grief-relevant outcomes.

Significant Between-Condition Differences



Repeated-measures ANCOVA; higher F-statistic reflects a stronger between-condition difference across timepoints.

Knowles, L. M., Kaplan, D. M., Flores, M., Friedman, S. E., & O'Connor, M. F. (2025). Mindfulness and relaxation interventions reduce depression, negative affect and stress in widow(er)s. Journal of Loss and Trauma. https://doi.org/10.1080/15325024.2025.2504951

The ‘Do More, Feel Better’ Intervention

A brief behavioral activation intervention study that improved mood

What is it?

A caring volunteer meets with you each week. Together, you find simple ways to feel happier.

How does it work?

Using principles of Behavioral Activation, participants identify activities that support wellness.

Does it really help?

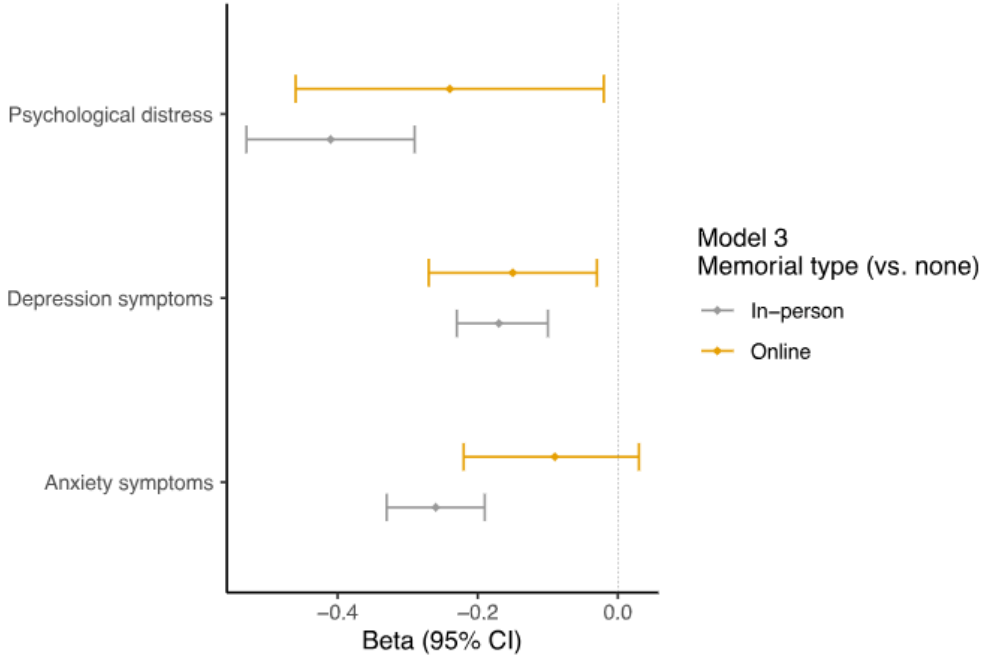
Randomized controlled trials and empirical outcomes studies showed the intervention worked. Participants reported spending more time with family, friends, and favorite hobbies.



You can feel better by doing things you love:

- Gardening
- Family & Friends
- Getting Out

Memorial attendance (both in person and on-line) and reduced distress



In a large study of older women who experienced the death of a loved one, attending a memorial EITHER on-line or in person was associated with less distress up to a year later.

Denckla CA, Hahn J, Cowden RG, Ho S, Gao K, Espinosa Dice AL, Jha SC, Kang JH, Shear MK. Bereavement, Memorial Attendance, and Mental Health During the COVID-19 Pandemic: Longitudinal Results from the Nurses' Health Study. Am J Geriatr Psychiatry. 2023

In conclusion, bereavement is widespread, grief unfolds in individual and collective ways, and interventions can improve health

Thank you!

Christy Denckla cdenckla@hsph.harvard.edu

Support

Advanced Research Institute
NIMH
Alden Trust
Positive Health Seed Grant, Lee Kum Sheung Center for Health and Happiness
Radcliffe Institute for Advanced Study at Harvard University
Stanley Center, Broad Institute of MIT and Harvard

Erasmus MC
Universitair Medisch Centrum Rotterdam

Generation R

University of BRISTOL
Avon Longitudinal Study of Parents and Children

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Definitions

Bereavement: The overarching state of loss. It encompasses both the period of adjustment and the holistic experience of coping with the departure of a person (or attachment figure) to whom one was deeply bonded.

Grief: From the Old French *grief* meaning ‘wrong, grievance, injustice, misfortune, calamity. The intense, often overwhelming anguish that follows loss. It involves emotional, physiological, and behavioral responses, such as yearning, sadness, anxiety, and persistent dwelling on the past.

Mourning: The outward, socially and culturally sanctioned behaviors, rituals, and expressions of grief