

# The Mental Note

OFFICIAL NEWSLETTER FROM  
THE HARVARD AGING BRAIN STUDY STAFF



THE INTERSECTION OF MUSIC  
AND MEMORY AND ITS IMPACTS  
ON EVERYDAY LIFE.

Dear HABS participants and study partners:

We would like to invite you to our third virtual Food for Thought. Dr. Edmarie Guzmán-Vélez has accepted the opportunity to present a live Zoom webinar discussing her research relating to music and memory.

We greatly appreciate your dedication to the Harvard Aging Brain Study. We are thinking of all of you in this time of uncertainty and hoping that everyone is staying well and comfortable at home!

STAFF AT THE HARVARD AGING BRAIN STUDY

*Care About You*

## THE INTERSECTION OF MUSIC AND MEMORY AND ITS IMPACTS ON EVERYDAY LIFE

We often talk about the decline in cognition that we observe in individuals with Alzheimer's disease (AD). Yet, there are functions that remain relatively intact until the later stages of AD.

Some of these are the ability to experience a feeling of emotion and to be moved by music; even remember some of the lyrics! This is not a coincidence. Brain regions associated with processing music and storing information from the past tend to be relatively spared from AD pathology until later stages. Some individuals with AD also benefit from the effects of music. Studies have shown that many times they are able to recognize the song, sing the lyrics, hum the tune, and sometimes even relate a memory to it, despite having impaired memory for events that occurred recently.

A recent study by Dr. Guzmán-Vélez and fellow researchers at the University of Iowa aimed to examine whether music could exert an effect on the emotional state in adults over the age of 65 and individuals with AD, and whether these feelings persisted regardless of whether or not they remembered the songs that they heard. In the study, individuals with AD were asked to come up with a list of 10 songs associated with negative memories and 10 associated with positive memories, with the help of their caregivers.

The researchers then selected 5 songs from each group and played them to the participants. They were then played the self-described "sad" or "happy" songs and asked to rate how they felt immediately after the end of the songs, as well as 10 and 20 minutes after. They were also tested in their abilities to remember which songs had been played.

"A wealth of research has shown that humans are capable of remembering emotionally-charged events significantly better than neutral ones.

Certain smells may trigger a specific memory as well, probably one associated with an emotion. Music can also trigger autobiographical memories - memories about personal experiences and knowledge.

Studies have shown that when individuals listen to songs associated with a specific stage or event in their life, it arouses memories from those times and creates a pleasurable or aversive emotional reaction depending on the content of the memory."

Researchers found that participants with AD had significantly worse recall and recognition for the songs. However, the songs significantly impacted how they felt for over 20 minutes after the songs had been played, regardless of whether they remembered the songs or not.

This study was inspired by previous research by Dr. Guzmán-Vélez, which found that individuals with AD could experience a feeling (sad or happy) for up to 30 minutes even when they could not remember the event that caused the feeling; suggesting that our actions as researchers, caregivers, friends, etc., can have a lasting impact, good and bad, on the emotional state of someone with AD. They may not remember that you visited or brought them their favorite ice-cream, but they could still experience the happiness caused by that gesture!

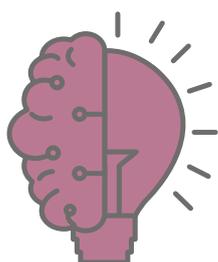
Altogether, research has shown that music is a powerful tool for inducing emotions and that it could be a therapeutic tool for improving mood and triggering positive memories from the past. It is also a means of connection between the caregiver and individuals with Alzheimer's disease, as some of these memories may be shared by both.

**JOIN US** from the comfort of your own home,  
as we host the third virtual

## FOOD FOR THOUGHT

Where Edmarie Guzmán - Vélez PhD will discuss the  
intersection of music and memory and its impacts  
on everyday life.

Tuesday, July 7th, 2020 at 10:30 AM



Join URL

<https://partners.zoom.us/j/91771340647>

For more information or for technical  
help call: 617-643-5200

Dr. Edmarie Guzmán-Vélez completed a doctorate in Clinical Psychology, with a specialization in neuropsychology. She is now an Instructor at the Massachusetts General Hospital and Harvard Medical School, where she works at the Multicultural Alzheimer Prevention Program. Dr. Guzmán-Vélez has been named to the Boston Latino 30 Under 30 for her numerous accomplishments. She is also an integral advocate for mentoring and diversity in the sciences.



Her research has focused on examining the relationship between emotions and memory in Alzheimer's disease, and more recently on identifying cognitive and brain changes associated with a high risk for dementia. In addition, she investigates lifestyle factors, such as physical activity, that can protect against the onset of cognitive impairment caused by neurodegenerative disorders, and its mechanisms.

**NEWSLETTER TEAM:** Pranitha Y. Premnath, Nicholas E. Stevenson, Madeline K. Kuppe, Paola Garza, Maria Zambrano, Aubryn Samaroo, Colleen Fitzpatrick, Martha C. Muniz, Yakeel T. Quiroz, PhD

**HABS CLINICAL CORE LEADER:** Dorene Rentz, PsyD

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