

DEPARTMENT OF EXTENSION

Day By Day Project Memory Disco:

Supporting Communities with Dementia Care Through Silent Disco Technology

Kathy Tutt, Assistant Professor, Family & Consumer Sciences (Clark County); Gwynn Stewart, MS – Assistant Professor, Community Development (Noble County); Ken Stewart, Family & Consumer Sciences Educator (Monroe County) & Kaylie Glenn, President/Founder – Day by Day Project

Day by Day Memory Disco

Alzheimer's disease and related dementias are the 6th leading cause of death overall and the 5th among those over 65 (CDC, 2023). In 2023, about 6.7 million Americans had Alzheimer's, with numbers expected to nearly triple by 2060 (CDC, 2023). As prevalence rises, so does the demand for caregivers, leading to significant caregiver stress. This poster presents an Ohio program and research study on using the Day By Day Memory Disco program to reduce caregiver stress in memory care settings (Brodaty & Arasaratnam, 2012).

Background & Significance

Caregiver stress in memory care facilities can affect the quality of care provided to residents and the caregivers' well-being (Chanda & Levitin, 2013; Woolhouse, Tidhar, & Cross, 2016). Three primary factors can influence caregiver stress:

- **Challenging Behaviors:** People living with dementia often exhibit behaviors such as aggression, agitation, and wandering due to cognitive decline. Managing these behaviors requires patience, skill, and emotional resilience, contributing significantly to caregiver stress (Belgrave, 2009; Raglio et al., 2009).
- **Heavy Workload:** Caregivers frequently attend to multiple residents with complex needs simultaneously. The physical and emotional demands of this workload can be overwhelming, leaving little room and resource for life enrichment activities that could mitigate behavioral challenges (Clair & Bernstein, 1990).
- **Emotional Strain:** Witnessing the cognitive and functional decline of residents daily can lead to feelings of sadness, frustration, and grief among caregivers, contributing to high turnover rates and low job satisfaction.

Musical interventions have shown promise in addressing the key stressors faced by caregivers.



Day By Day Memory Disco Program Description

The Day By Day Memory Disco program is a comprehensive, multi-sensory musical intervention designed to address the unique needs of individuals with dementia in memory care settings. It comprises two core components: silent disco technology and a neuroscience-based musical engagement program.

Silent Disco Technology

This innovative approach connects multiple wireless headphones to a single transmitter, enabling all participants to experience the same music simultaneously. Silent disco technology effectively addresses three key barriers to musical engagement in dementia care:

1. **Attention Challenges:** Dementia often reduces an individual's attention span, making it difficult to focus and engage meaningfully. The use of headphones helps capture and sustain attention by creating an immersive auditory environment, thereby maximizing engagement.
2. **Auditory Needs:** Age-related hearing decline, exacerbated by dementia, can limit participation in traditional musical activities. Each set of headphones is equipped with adjustable volume controls, allowing users to customize sound levels to their specific hearing requirements.
3. **Accessibility:** Silent disco technology offers a flexible, cost-effective alternative, enabling engaging musical experiences to be delivered anytime, anywhere, and by any trained staff member.



Musical Engagement Program

Complementing the silent disco technology, the musical engagement program is structured around three core pillars:

- rhythmic engagement,
- physical engagement, and
- community engagement.

The program includes 15 **evidence-based activity guides** designed to utilize music as a therapeutic tool to enhance programming and address behavioral challenges and serve as an assistive hearing mechanism to foster engagement across diverse activities.

These guides feature curated playlists and incorporate research-backed strategies aimed at improving mood, cognitive function, and behavioral outcomes.

Ohio Program Implementation

Ohio State University Extension educators in Community Development and Family and Consumer Sciences partnered with Day by Day Memory Disco and local stakeholders including the Area Agency on Aging; Job & Family Services; Health Departments; Veterans Services Office; libraries, Senior Centers, and private long-term care sites. With investments of funding from Extension, Community Foundations, and other partners totaling nearly \$50,000, the project is now available in multiple counties.

Research Aim and Methods

The research study aims to evaluate the effectiveness of the Day By Day Memory Disco program in improving caregiver well-being within memory care environments. The research focused on assessing the program's impact on caregivers' feelings of connection, job satisfaction, and perceived effectiveness in managing resident engagement and behavior. Additionally, the study sought qualitative feedback to gain insights into the program's practical application and benefits from the caregivers' perspective.

The study involved 21 participants from 18 memory care facilities, including activity directors, memory care coordinators, assisted living coordinators, and other caregiving professionals. After implementing the program, participants completed an online survey. Data collection included ten items measured on a five-point Likert-type scale to assess the participants' perceptions of the program's impact on caregiver stress, resident engagement, and workplace satisfaction. Additional open-ended questions captured participants' thoughts, experiences, and insights related to the memory disco program.

General Caregiver Comments

- “ The residents' mood changes and becomes better, we have not had a resident that doesn't enjoy it!
- It just seems to transport them to another world they will dancing around the building and forgetting everything else.
 - Music brings up different memories with each resident. It's nice afterwards we can talk about what memories they thought of when listening.
 - Using the Memory Disco is the best part of my job. I look forward to days when I know I will be using it. The bedtime activity makes the transition to bed so much easier. ”



Research Findings

Mood and Behavioral Improvements

Participants reported significant improvements in residents' mood and behavior during and after Memory Disco activities:

- Over 90% observed **enhanced mood** during activities, with an average rating of 4.33
- Approximately 85% reported **improved behavior**, averaging a score of 4.14
- Notably, over 66% observed **sustained mood improvements** 4-6 hours post-activity, with a mean score of 3.81
- Over 95% noted **improved behavior 4-6 hours after activities**, with a high mean score of 4.19

Workplace Motivation and Confidence

The program had a positive impact on caregivers' workplace experiences:

- Over 71% felt **more motivated to work** on days they used Memory Disco;
- More than 80% experienced **increased workplace satisfaction**
- Over 70% of participants reported **increased confidence in their caregiving abilities**, feeling better equipped to manage behavioral challenges using the program.

Conclusion

The Day By Day Memory Disco program emerges as a transformative tool in memory care, enhancing resident well-being, caregiver satisfaction, and the overall quality of care. Its ability to foster meaningful connections, improve behaviors, and alleviate caregiver stress underscores its potential for broader adoption and continued innovation. By addressing core stressors identified in this research – challenging behaviors, heavy workloads, and emotional strain – Memory Disco represents a scalable, evidence-based solution to support both caregivers and residents in memory care environments.

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