

Summary

- Caregiver distress disrupts social engagement and personal relationship quality.
- Our study aimed to determine whether engaging in an intergenerational social intervention would have a positive effect on caregiver distress.
- Within-person increases in social activities (SA) predicted lower distress in caregivers.
- The buffering effect of SA was highest in earlier stages of disease progression.

Introduction

- Recent research has supplied evidence that elucidates the extent to which being a caregiver to a person with dementia might have deleterious effects. These effects span physical, psychological, and cognitive domains.
- Gellert et al. (2018) found that social support buffers the negative impact of perceived stress on quality of life.
- Furthermore, Smith and colleagues (2017) proposed that exchange of emotional support between caregivers incites something of a 'two-way flow of support', in turn promoting self-disclosure and solidarity.

Objective:

- This project aims to investigate the moderating effects of social activities on caregiver distress within dyads.

Hypothesis:

- We hypothesized that caregiver distress would improve as engagement in social activities increases.
- We expected that the cognitive status of the care recipient would impact the relationship between social activities and caregiver distress.



SCAN ME



Methods and Materials

Participants: 32 dyads, consisting of care recipients (CR) and their caregivers (CG), participated in the ViM choir. MMSE scores for CR indicated mild to moderate dementia (Mdn = 24). The average age of participants was 74.5 years (SD = 8.63). See Tamburri and colleagues (2019) for a detailed description of the study.

Procedure: Assessments followed a measurement-burst design, taking place roughly every four weeks over each choral season. CGs completed a variety of assessments which surveyed psychosocial health (e.g. ZBI-12, social activity components from the REACH II protocol), and CRs completed a series of tasks that measured cognitive functioning (e.g. MMSE).

Materials:

- Zarit Burden Interview (ZBI-12): self-report measure assessing CG distress (Cronbach's alpha = .94).
- Social Activities: items from the REACH II protocol (Cronbach's alpha = .86).
- Mini-Mental State Examination (MMSE): measure of global cognition; used for indexing level of cognitive impairment for CRs.

Multilevel Equation

Level 1: Caregiver Distress_{ij} = β_{0i} + $\beta_{1i}(\text{Time})$ + $\beta_{2i}(\text{Monthly Social Activities}_{ij} - \text{PM Social Activities}_i)$ + e_{ij}

Level 2:

$\beta_{0i} = \gamma_{00} + \gamma_{01}(\text{PM Social Activities}) + \gamma_{02}(\text{CR Cognition}) + \gamma_{03}(\text{PM Social Activities} * \text{CR Cognition}) + u_{0i}$

$\beta_{1i} = \gamma_{10}$

$\beta_{2i} = \gamma_{20}$

Analysis and Results

Analysis: This project used multilevel modeling (MLM) to measure dynamic changes in caregiver distress, as predicted by fluctuations in social activities at the within-person and between-person (BP) levels. For more information on MLMs, please scan the QR code on the bottom left. Parameters were estimated using full information maximum likelihood.

Within- and Between-Person Effects of Social Activities: The coupled-change parameter was statistically significant ($\gamma_{20} = -0.96$, 95% CI [-1.65, -0.27]). At the BP level, higher levels of social activities predicted lower distress scores, albeit this relationship was not significant ($\gamma_{01} = .01$, 95% CI [-0.13, .15]).

Moderating Impact of CR Level of Cognitive Impairment: Following a priori hypothesis, we estimated simple effects for select values of MMSE (24, 19, and 14); the simple slopes reflect how the association between social activities and caregiver distress vary as a function of between-person differences in level of cognitive function. For an MMSE of 24, the BP effect of social activities was significant ($\gamma_{01} = -3.76$, 95% CI [-5.72, -1.80]). For an MMSE of 19, the BP effect of social activities was not significant ($\gamma_{01} = -1.04$, 95% CI [-2.97, .89]). For an MMSE of 14, the BP effect of social activities was significant ($\gamma_{01} = 1.68$, 95% CI [-1.27, 4.63]).

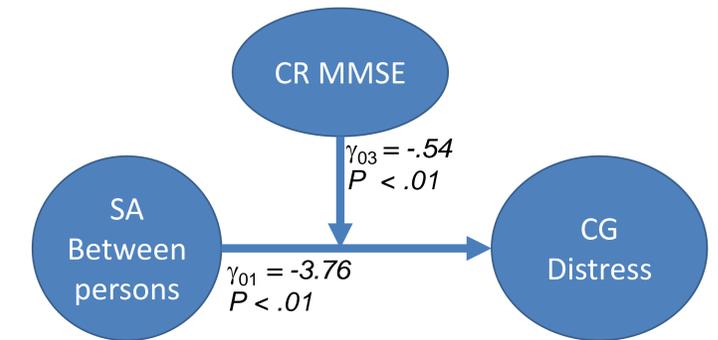


Figure 1. Visualization of moderation model, with MMSE cut off value set at 24.

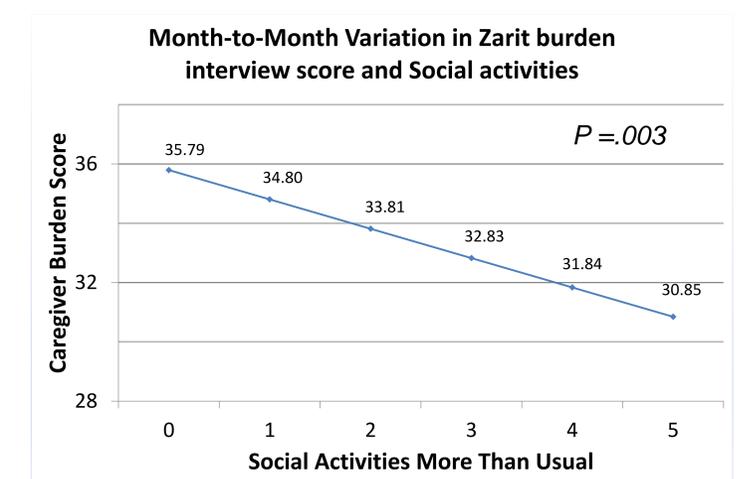


Figure 2. Within-person coupling of Zarit burden interview score as a function of person-centered social activities score.

Discussion

In our study, as social activities increased at the within-person level, caregiver distress decreased. As well, the degree of care recipient cognition seems to have a between person effect on the relationship between social activities and distress in caregivers.

Limitations: small sample size, short choral seasons.

For further research: Need to further explore whether choral participation can change a caregiver's confidence in their own abilities to take care of the care-recipient as well as change in levels of neuroticism. Could compare to other musical activities (e.g., hand chimes, rhythm ensembles) or other social activities. Could also investigate different types of relationships between caregiver and care recipient (i.e. parent/child, spouses, family friend, etc.).

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Funding and acknowledgements

We would like to sincerely thank the amazing contributions of our choral conductor, Erica Phare-Bergh, as well as the equally amazing research participants. The Voices in Motion Project was supported by grants from the Alzheimer Society of Canada and the Pacific Alzheimer Research Foundation to D.J. Sheets, S.W.S. MacDonald, & A.P. Smith (Principal Investigators). S. MacDonald acknowledges the gracious support of the Royal Society of Canada College of New Scholars, Artists and Scientists.

References

- Gellert, P., Häusler, A., Suhr, R., Gholami, M., Rapp, M., Kuhlmeier, A., & Nordheim, J. (2018). Testing the stress-buffering hypothesis of social support in couples coping with early-stage dementia. *PLoS one*, 13(1).
- Smith, R., Drennan, V., Mackenzie, A., & Greenwood, N. (2018). Volunteer peer support and befriending for carers of people living with dementia: an exploration of volunteers' experiences. *Health & social care in the community*, 26(2), 158-166.
- Tamburri, N., Trites, M., Sheets, D., Smith, A., & MacDonald, S. (2019). The Promise of Intergenerational Choir for Improving Psychosocial and Cognitive Health for those with Dementia: The Voices in Motion Project. *The Arbutus Review*, 10(1), 66-82.