

Daily Extradynamic Social Interactions Among Couples Living With Dementia: Links to Cortisol and Alpha-Amylase Synchrony

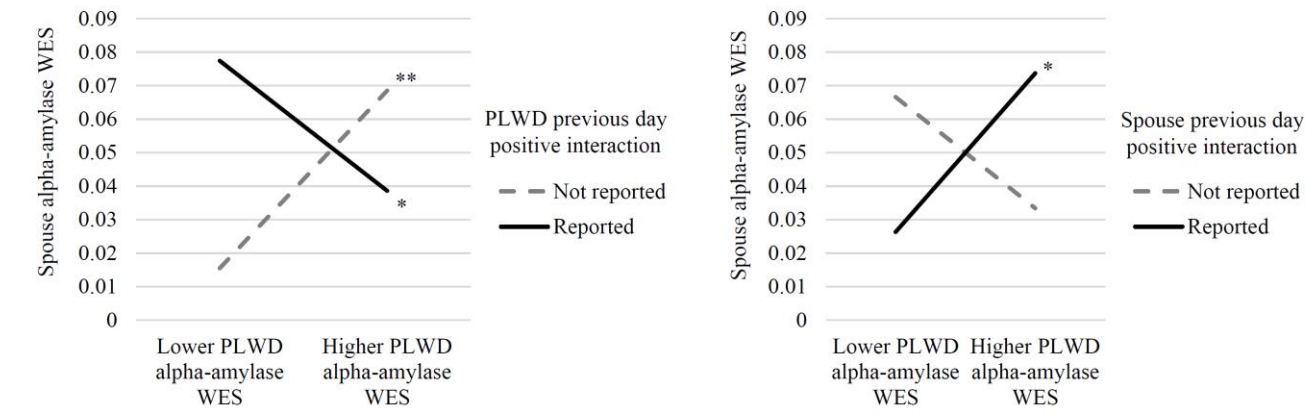
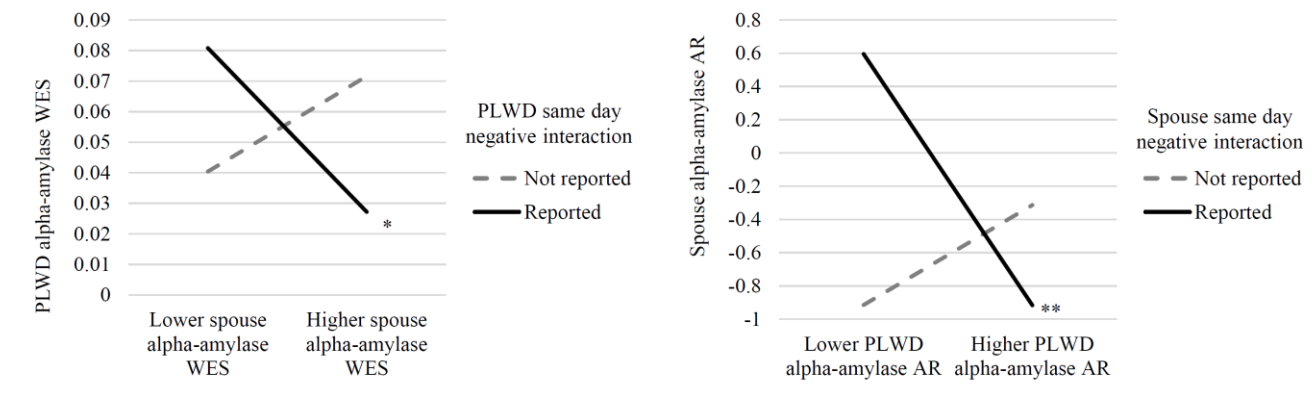


Courtney A. Polenick,^{1,2} Angela Turkelson,¹ Charity Garner,¹ & Yin Liu³

¹University of Michigan, Ann Arbor, MI, USA. ²Michigan Alzheimer’s Disease Research Center, USA. ³Utah State University, Logan, UT, USA.

Both positive and negative extradynamic interactions with people outside the couple relationship influence daily patterns of synchrony in physiological stress responses among couples living with dementia.



INTRODUCTION	METHODS	RESULTS	RESULTS (CONT.)	CONCLUSIONS
Background Couples’ interactions with people outside their relationship may be a source of support and strain, but we know little about how these extradynamic interactions influence synchrony (within-couple associations) in stress responses among people living with dementia (PLWD) and their spouse caregivers. The Present Study We evaluated how extradynamic interactions reported by people living with dementia (PLWD) and their spouse caregivers predict synchrony in diurnal cortisol and alpha-amylase rhythms among opposite-sex couples living with early-stage ADRC.	Sample and Procedures The sample included 34 PLWD and their spouse caregivers (68 individuals) who completed 7 consecutive days of morning and evening phone interviews and collected saliva samples four times per day (at waking, 30 min after waking, before lunch, and before bed) for four of those days. Analytic Strategy We estimated longitudinal actor-partner interdependence models to account for the mutual influences within ADRC care dyads. Outcomes were the awakening response (AR; waking to 30 min post-waking), wake-evening slope (WES; 30 min post-waking to bedtime), and total area under the curve (AUC) for cortisol and alpha-amylase.	Positive Extradynamic Interactions and Synchrony - When PLWD reported positive extradynamic interactions, there was in-phase synchrony (a positive association) within couples in cortisol AUC on the same day ($p < .01$) and anti-phase synchrony (a negative association) in alpha-amylase WES on the next day ($p < .05$; see Figure 1) - When spouses had positive extradynamic interactions, there was in-phase synchrony in alpha-amylase AUC ($p < .05$) and WES ($p = .01$; see Figure 1) on the next day Negative Extradynamic Interactions and Synchrony - On days when PLWD reported having negative extradynamic interactions, there was anti-phase synchrony (a negative association) in alpha-amylase WES ($p < .05$; see Figure 2)	Negative Extradynamic Interactions and Synchrony On days when spouses reported having negative extradynamic interactions, there was anti-phase synchrony (a negative association) in alpha-amylase AR ($p = .001$; see Figure 2)  Figure 1. Alpha-amylase synchrony by PLWD and spouse reports of positive extradynamic interactions. *** $p < .001$. ** $p < .01$. * $p < .05$.  Figure 2. Alpha-amylase synchrony by spouse and PLWD reports of negative extradynamic interactions. *** $p < .001$. ** $p < .01$. * $p < .05$.	Couples showed in-phase synchrony (a positive association) when PLWD or their spouses reported positive extradynamic interactions. By contrast, anti-phase synchrony (a negative association) occurred the day after PLWD reported positive extradynamic interactions and when either partner had negative extradynamic interactions. These findings inform interventions to improve well-being in couples living with dementia. CONTACT Courtney A. Polenick, PhD, FGSA (cpolenic@umich.edu) This study was supported by grants K01 AG059829 (PI: Polenick) and P30 AG072931 (PI: Paulson) from the National Institute on Aging and grant UL1TR002240 (PIs: Mashour and Lumeng) from the National Center for Advancing Translational Sciences at the National Institutes of Health.  ALZHEIMER'S ASSOCIATION AAIC 26