

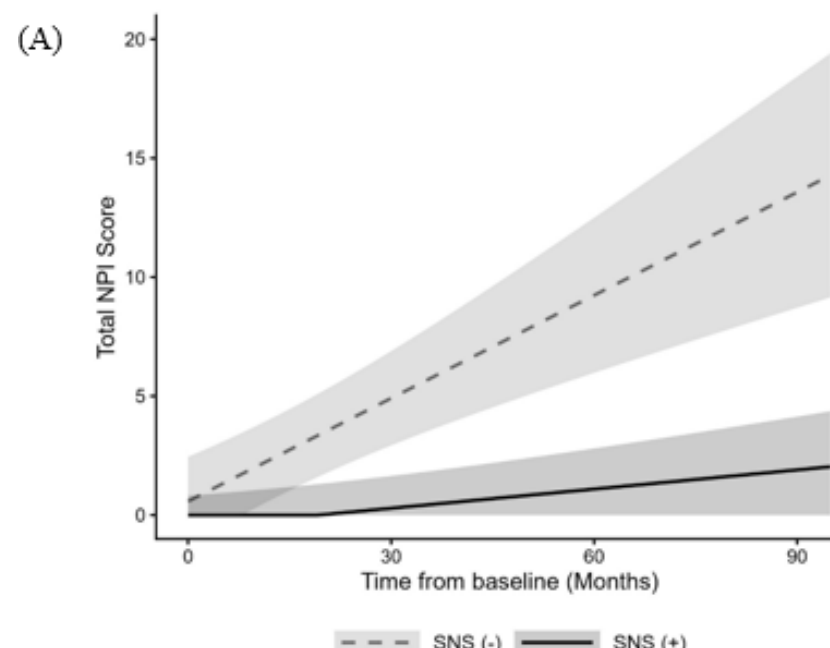
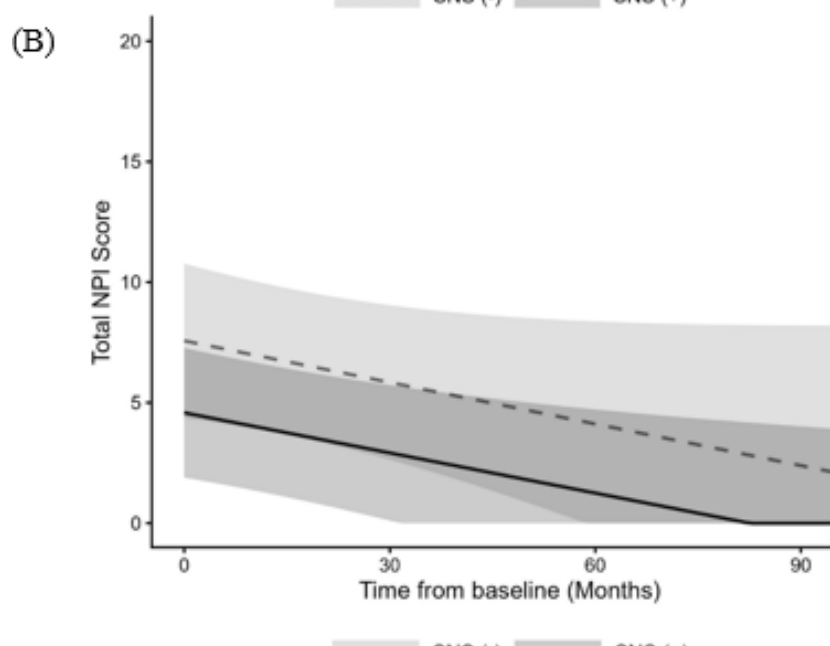
Social Network And Longitudinal Neuropsychiatric Symptom Trajectories Across The Cognitive Continuum

Monday-1291

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1. **81% NPS Delay:** Adequate social networks reduce new symptom emergence by 81% in asymptomatic individuals.
2. **Shield Effect:** Social ties act as a preventive buffer rather than a treatment for existing symptoms.
3. **Early Target:** Interventions must be implemented before neuropsychiatric symptoms manifest.

INTRODUCTION	METHODS	RESULTS	CONCLUSIONS																											
Background: Neuropsychiatric symptoms (NPS) affect up to 90% of patients with cognitive decline, increasing caregiver burden and healthcare costs. Gap in Knowledge: While social networks influence cognitive decline, their longitudinal impact on NPS trajectories remains unclear. Objectives: To evaluate the association between social network status (SNS) and longitudinal NPS trajectories across the cognitive continuum	Participants: N=618 adults (aged ≥ 50) from a Ansan Hospital, Korea university memory clinic (2017–2024). Cognitive Continuum: Categorized into Cognitively Normal (CN), Mild Cognitive Impairment (MCI), and Dementia. Social Network Status (SNS): 4-item index (cohabitation, family contact, neighbor interaction, and community activities). SNS(+) = Score 2–4; SNS(-) = Score 0–1. NPS Measurement: Neuropsychiatric Inventory (NPI) total scores evaluated longitudinally (≥ 2 visits). Statistical Analysis: Linear mixed-effects models (LMM) to estimate trajectories, adjusted for age, sex, education, comorbidities, medications, and cognitive status.	Baseline Characteristics: 78.5% of participants had adequate SNS at baseline. SNS(+) was associated with lower baseline NPI scores ($\beta = -1.716$, $P = 0.029$). Longitudinal Overall Trajectory: Adequate SNS predicted lower NPI scores over time ($\beta = -3.095$, $P < 0.001$). (A)  (B)  Subgroup Analysis Asymptomatic Group (NPS-): Significant Time × SNS interaction ($\beta = -0.117$, $P < 0.001$). SNS(+) reduced incident NPS rate by 81% (Figure 1A, Table 1). Symptomatic Group (NPS+): SNS(+) maintained lower symptom burden but did not alter the slope of established symptoms ($P > 0.05$) (Figure 1B, Table 2). Cognitive Status: The protective effect of SNS was consistent across CN, MCI, and Dementia (Interaction $P > 0.05$). <table><tr><th>Stratum / Fixed Effects</th><th>Estimate (95% CI)</th><th>P-value</th></tr><tr><td colspan="3">Baseline NPS(-)</td></tr><tr><td>Time (Months)</td><td>0.144 (0.086 – 0.203)</td><td>< 0.001</td></tr><tr><td>SNS(+)</td><td>-1.099 (-2.633 – 0.435)</td><td>0.161</td></tr><tr><td>Time × SNS(+)</td><td>-0.117 (-0.180 – -0.054)</td><td>< 0.001</td></tr><tr><td colspan="3">Baseline NPS(+)</td></tr><tr><td>Time (Months)</td><td>-0.057 (-0.123 – 0.009)</td><td>0.092</td></tr><tr><td>SNS(+)</td><td>-3.006 (-5.269 – -0.742)</td><td>0.009</td></tr><tr><td>Time × SNS(+)</td><td>0.002 (-0.076 – 0.081)</td><td>0.952</td></tr></table>	Stratum / Fixed Effects	Estimate (95% CI)	P-value	Baseline NPS(-)			Time (Months)	0.144 (0.086 – 0.203)	< 0.001	SNS(+)	-1.099 (-2.633 – 0.435)	0.161	Time × SNS(+)	-0.117 (-0.180 – -0.054)	< 0.001	Baseline NPS(+)			Time (Months)	-0.057 (-0.123 – 0.009)	0.092	SNS(+)	-3.006 (-5.269 – -0.742)	0.009	Time × SNS(+)	0.002 (-0.076 – 0.081)	0.952	Summary: Robust social networks effectively prevent or delay the initial emergence of NPS but have limited impact on existing symptom trajectories. Clinical Implication: Early social engagement interventions are critical "before" the manifestation of behavioral symptoms. CONTACT Email: annie07160908@gmail.com 
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