



Loneliness, Marital Status, and Cognition in Mid- to Late-Life

Daniel Sierra, William Moran, & Julia Sheffler, PhD
Center for Translational Behavioral Science
Florida State University College of Medicine



Introduction

- There is an established connection between cognitive decline and loneliness. (1,3)
- Loneliness and marital status are linked and independently predict cognition. (2,3)
- Despite the close link between marital status and loneliness, evidence remains mixed on whether the link between loneliness and cognitive decline depends on marital status. (4,5,6)

Hypotheses

1. Married individuals will have higher cognitive functioning.
2. Higher loneliness will be associated with worse cognitive functioning.
3. The relationship between loneliness and cognition may depend on marital status, such that married individuals may experience better cognitive function regardless of self-reported loneliness.

Methods

Participants

- Participants included adults who completed two waves of the Midlife in United States (MIDUS) longitudinal study, including follow-up data from the cognitive study at Wave II (MIDUS I, Baseline: 1995-1996; N=7,108; age range =25-86)

Measures

- **Covariates** included self-reported age, sex (Male=1, Female=2), educational level (1=no school/grad school – 12=terminal degree), and total annual household income.
- **Cognition** was assessed using the total score (z-scored) from the Brief Test for Adult Cognition via Telephone (BTACT) from MIDUS II.
- **Marital Status** was assessed through a self-survey, ranging from married (1) and unmarried (2; i.e., divorced, widowed, never married)
- **Loneliness** was assessed through a self-survey done through MIDUS determining whether they were either feeling lonely all the time (5), most of the time (4), some of the time (3), a little of the time (2), or none of the time (1).

Methods

Analyses

- We used hierarchical regression and moderation models in SPSS to examine the effects marital status and loneliness on cognitive impairment in MIDUS waves I-II.
- Age, sex, household income, educational level were included as covariates.

Results

Sample Characteristics

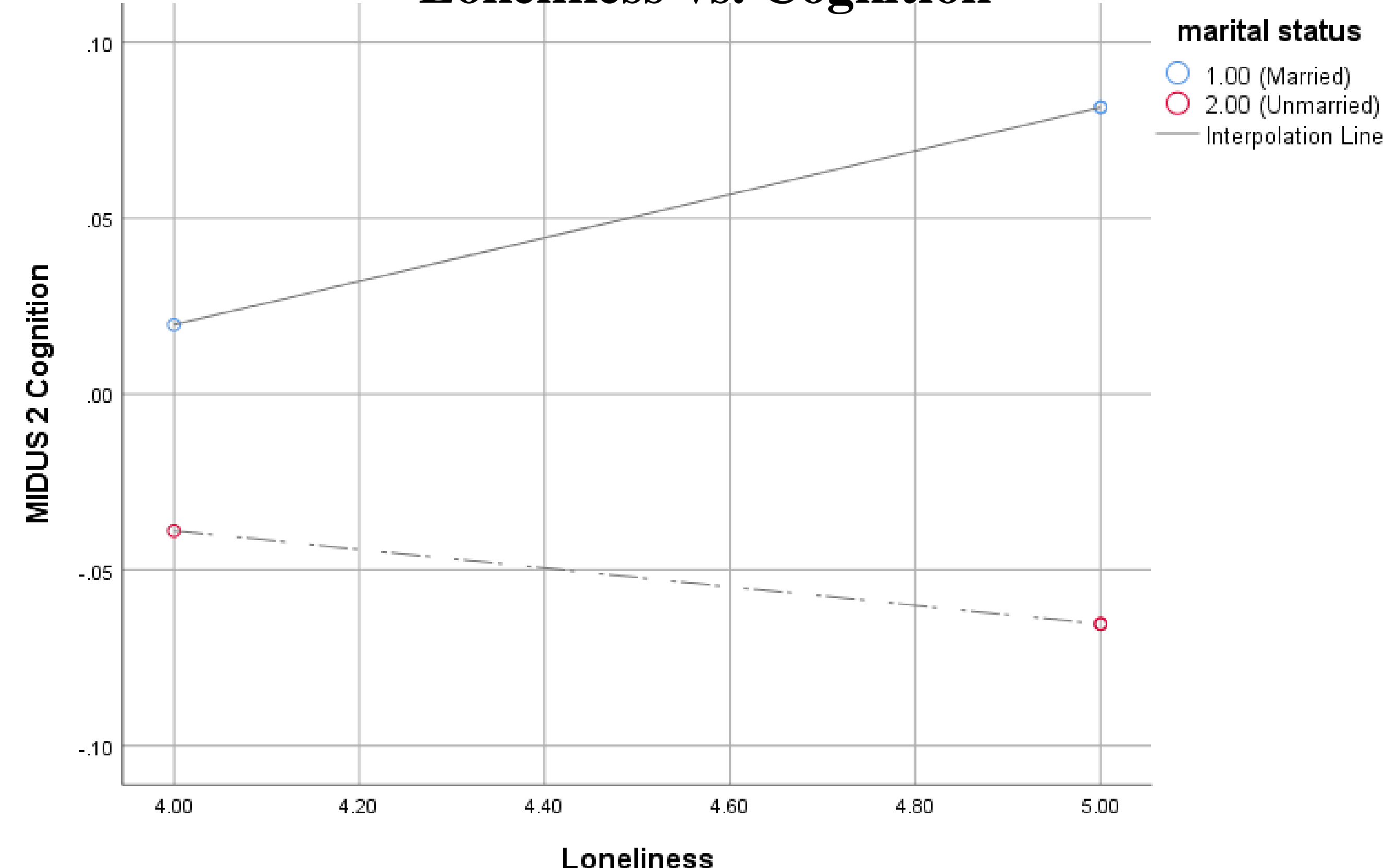
Marital Status Dichotomized			Felt Lonely Frequency (30 days)		
Value	Frequency	Valid Percent		Frequency	Valid Percent
1.00	4666	65.7	All the time	56	1.2
2.00	2437	34.3	Most of the time	141	3.1
			Some of the time	454	9.9
Total	7103	100	A little of the time	1002	21.9
			None of the time	2924	63.9
			Total	4577	100

Direct Effect

- The relationship between marital status and cognition (B= -.088) (P=.008) was found to be statistically insignificant.
- The relationship between loneliness and cognition (B=.025) (P=.149) was found to be statistically significant.

Conditional Effects

Marital Status and Loneliness vs. Cognition



- This graphs illustrates that cognition is higher for those who are married and reporting higher loneliness, while cognition is lower for those who are unmarried and reporting higher loneliness.

Conclusions

- Individuals who were married in the sample had higher cognitive functioning than individuals who were not married.
- Loneliness was not independently associated with cognitive functioning.
- The effect of loneliness on cognition appeared to depend on marital status, however, such that married individuals were protected against the negative effects of loneliness.
- Examining the relationship between loneliness and cognition, along with marital status and how it may be dependent on this relationship is important to understand how the brain is affected by social relationships.

Limitations & Future Directions

- The current study was cross-sectional, which prevents us from making determinations about causality.
- Future studies would benefit from improved measures of loneliness to increase sensitivity to this construct.
- Future studies may benefit from accounting for mood in these relationships, as mood and mental health conditions may influence all of the variables examined.

References

1. Lara, E. (2019). *Are loneliness and social isolation associated ...* - wiley online library.
2. Palmer, B. (2019). The effects of loneliness and social isolation on cognitive functioning in older adults: A need for nuanced assessments. *International Psychogeriatrics*, 31(4), 447-449.
3. Lam, J., Bardo, A. R., & Yamashita, T. (2019). LONELINESS, MARITAL STATUS, AND COGNITIVE IMPAIRMENT AMONG OLDER AMERICANS. *Innovation in Aging*, 3(Suppl 1), S378.
4. Jennifer Yeh, S.-C., & Lo, S. K. (1970, January 1). *Living alone, social support, and feeling lonely among the elderly*. Latest TOC RSS
5. Helmer, C., Damon, D., Letenneur, L., Fabrigoule, C., Barberger-Gateau, P., Lafont, S., Fuhrer, R., Antonucci, T., Commenges, D., Orgogozo, J. M., & Dartigues, J. F. (1999). Marital status and risk of Alzheimer's disease: a French population-based cohort study. *Neurology*, 53(9), 1953-1958.
6. Liu, H., Stern, Y., Goldman, N., Ruitenberg, A., Azad, N. A., Lin, K. A., McKhann, G. M., Umberson, D., Blazer, D. G., Ray, S., Langa, K. M., Obisesan, T. O., Orrell, M., Sharp, E. S., ... Zhang, Z. (2019, August 21). *Marital status and cognitive impairment in the United States: Evidence from the National Health and Aging Trends Study*. *Annals of Epidemiology*.