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INTRODUCTION

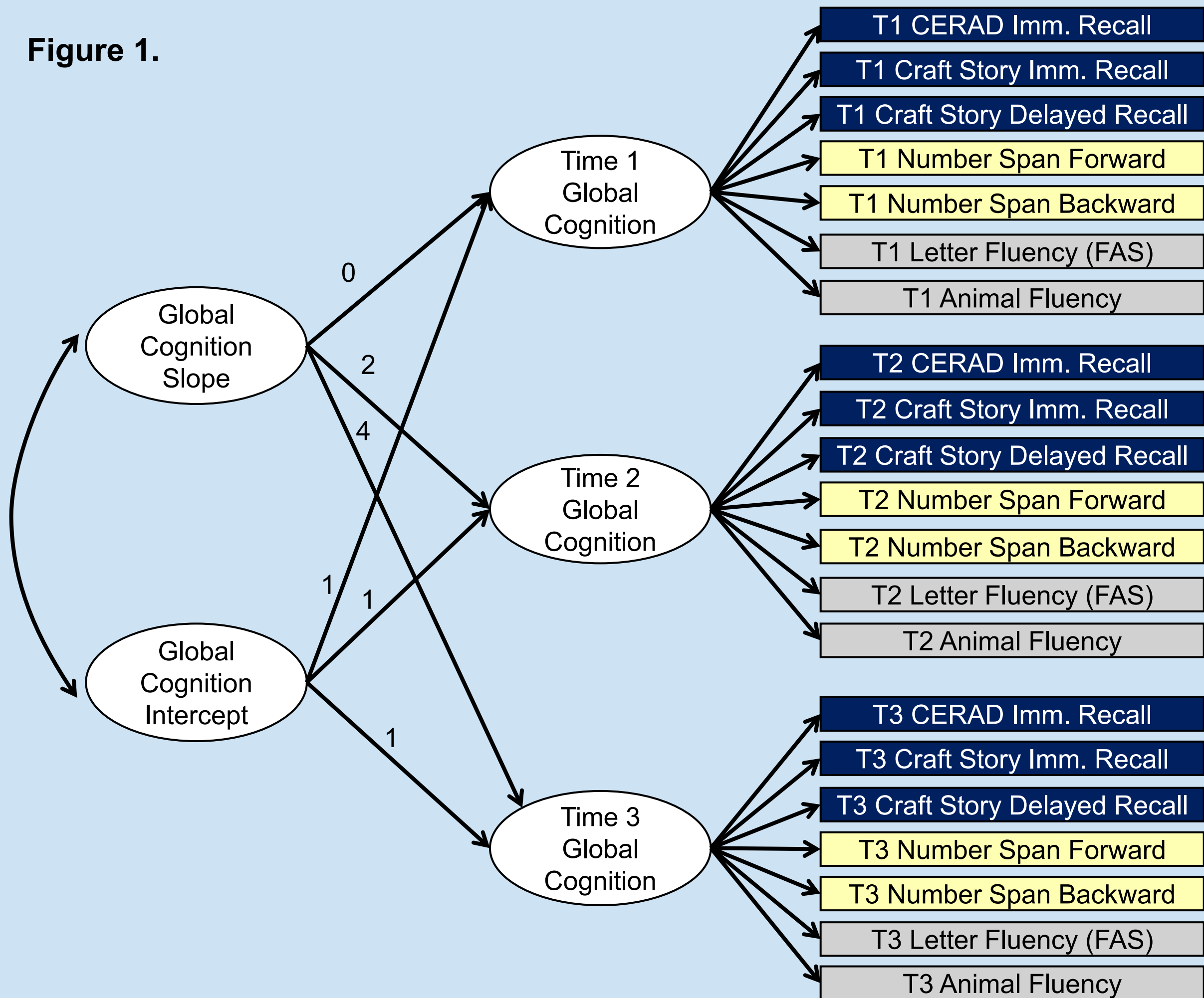
- Occupational exposures: understudied component of dementia exposome
- Individual occupational exposures → cognitive health. Less is known:
 - Exposure to multiple occupational stressors
 - Whether stressors may cluster across occupations
 - Presence of racial disparities in exposures and associations

- AIM 1:** Characterize distribution of multidimensional workplace stressors
- AIM 2:** Relate profiles of stressors to cognitive health trajectories
- AIM 3:** Characterize differences by race

METHODS

- Up to 3 waves of longitudinal data from 704 participants from the Michigan Cognitive Aging Project (time between waves: $M=2.5\pm2.2$ years; range=0-7.1)
- 26 occupational stressors linked based on main lifetime occupation
 - Occupational Information Network (O*NET)
 - 242 unique occupation codes represented
- Latent profile analysis: detect distinct profiles of occupational stressors
- Latent growth curve modeling assessed how profiles related to cognition (**Figure 1**)

Figure 1.



Note. Blue Boxes=episodic memory; Yellow Boxes=attention/working memory; Gray Boxes=verbal fluency; CERAD=Consortium to Establish a Registry for Alzheimer's Disease; Imm.=Immediate. Covariates: average parental education, childhood health, age, gender, race, ethnicity, participant's education, assessment mode, occupational position, income, working status.

Figure 2.

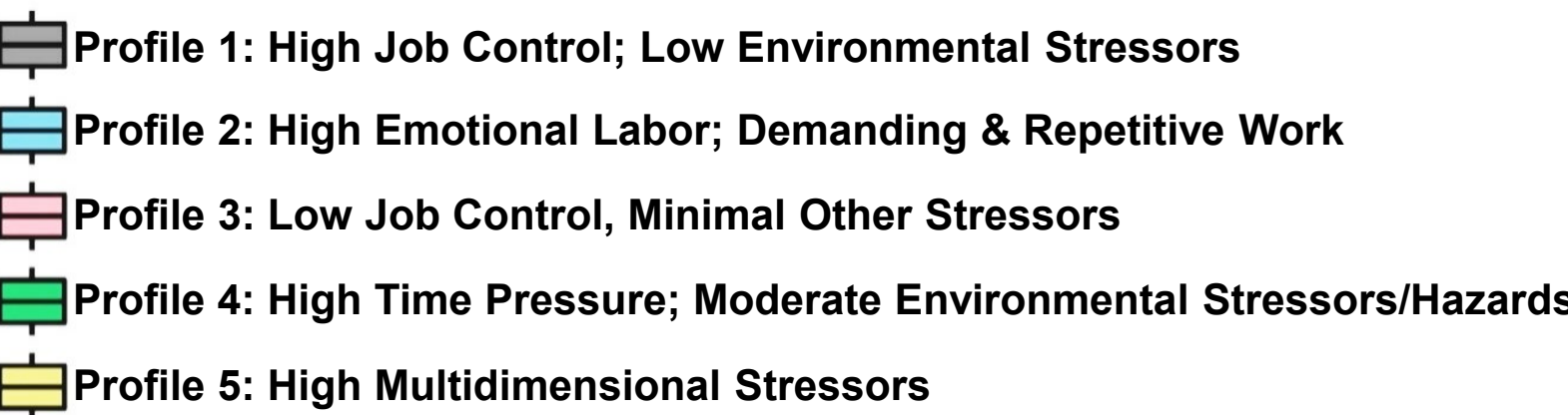
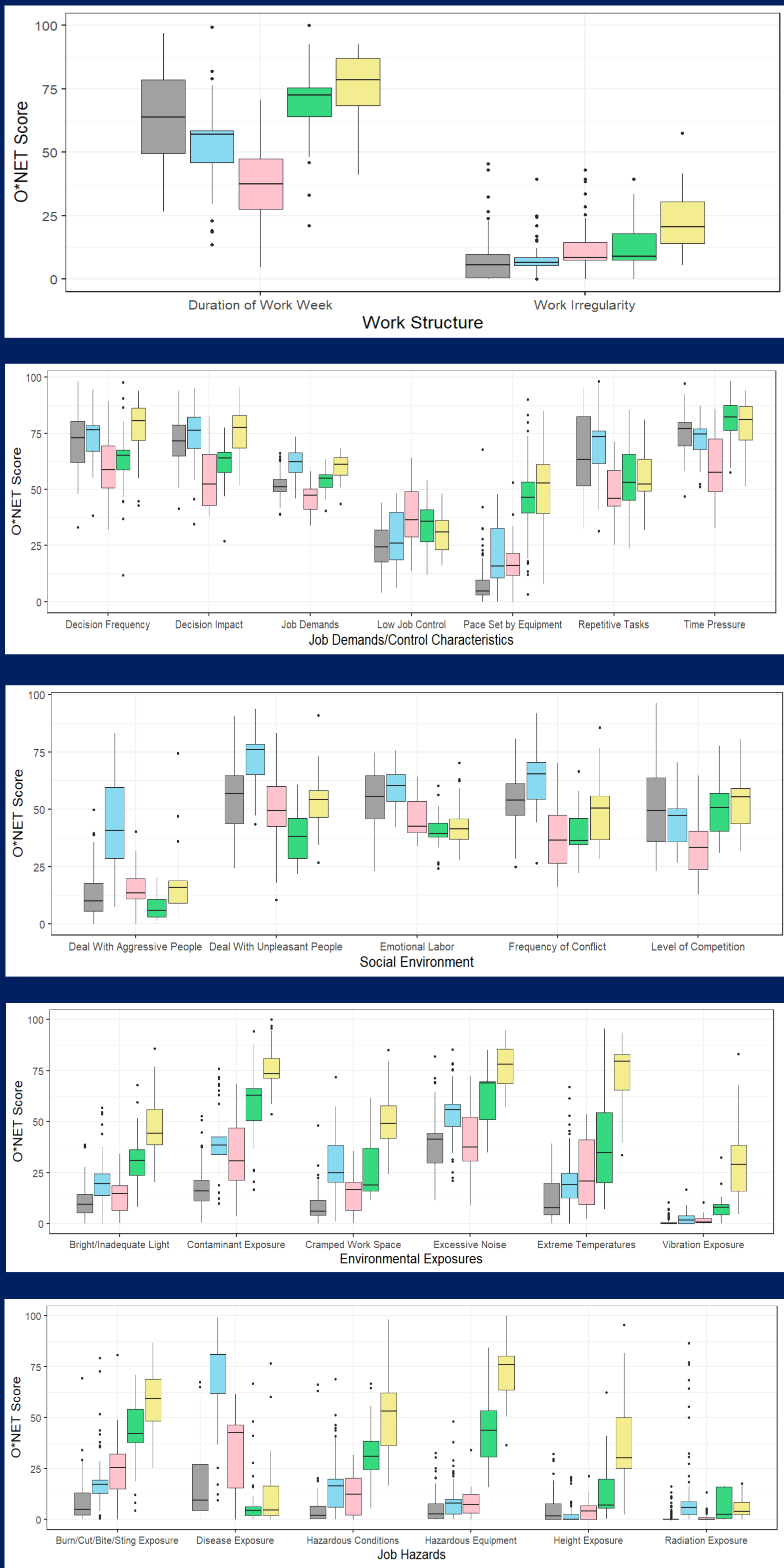
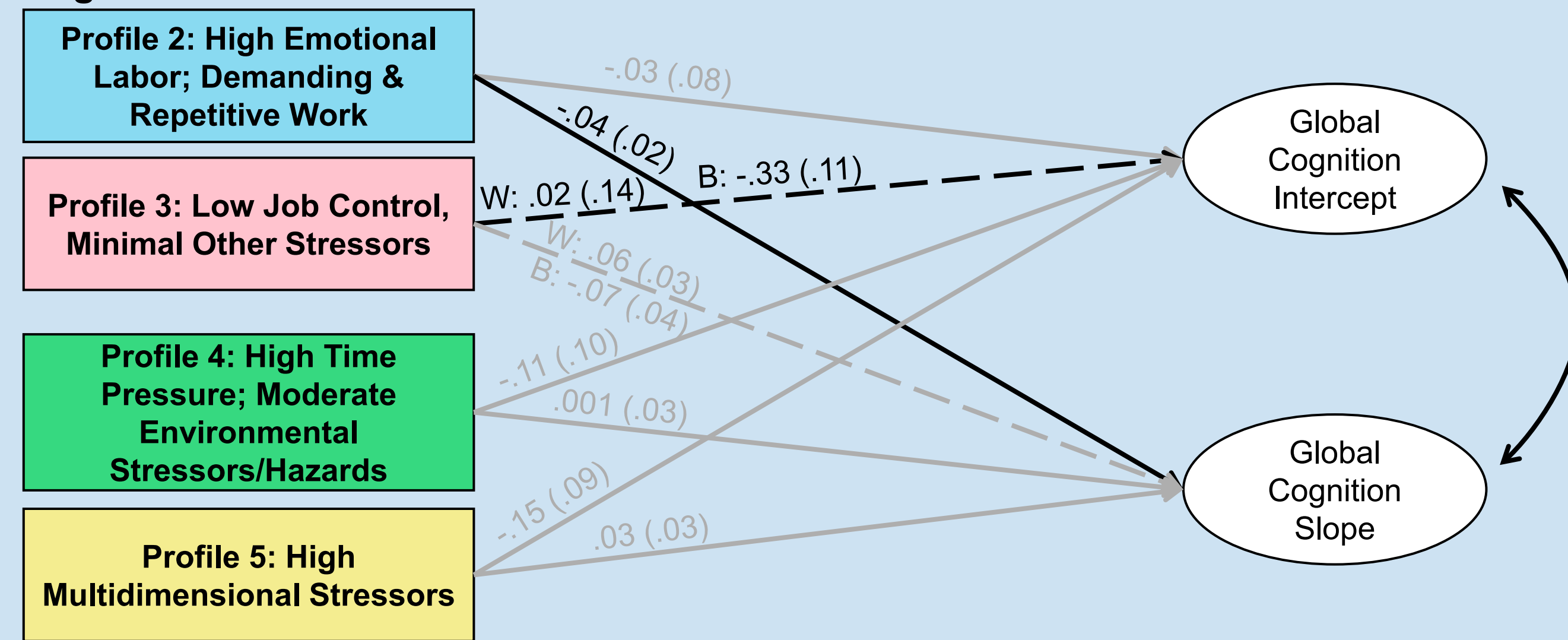


Table 1. Baseline Differences in Covariates Across Profiles.

Variable [Range]	Profile 1 (n=284) M±SD, N (%)	Profile 2 (n=122) M±SD, N (%)	Profile 3 (n=106) M±SD, N (%)	Profile 4 (n=87) M±SD, N (%)	Profile 5 (n=105) M±SD, N (%)
Age [55-83]	63.3±2.7	63.8±2.9	62.8±3.3	63.4±3.4	63.2±3.0
Gender (Male)	89 (31%) ^{4,5}	26 (21%) ^{4,5}	29 (27%) ^{4,5}	57 (66%) ^{1,2,3,5}	89 (85%) ^{1,2,3,4}
Race/Ethnicity					
Non-Hispanic White	136 (48%) ^{3,4}	41 (34%)	26 (25%) ¹	23 (26%) ¹	31 (30%)
Non-Hispanic Black	124 (44%)	73 (60%)	74 (70%)	58 (67%)	71 (68%)
Hispanic/Other	22 (8%)	7 (6%)	6 (6%)	6 (7%)	3 (3%)
Childhood Health [1-5]	4.2±1.0	4.1±1.1	4.0±1.1	4.1±1.1	4.4±0.9
Avg Parental Education [0-17+]	11.8±3.1	11.0±3.2	11.0±3.0	11.2±2.7	11.4±2.6
Years of Education [7-17+]	14.9±2.1 ^{2,3,4,5}	13.9±2.1 ^{1,3,4,5}	12.3±2.0 ^{1,2}	12.7±1.6 ^{1,2}	12.5±1.8 ^{1,2}
Yearly Income Bin [1-32]	12.4±8.5 ^{2,3,4,5}	9.0±7.1 ^{1,3}	6.2±6.0 ^{1,2}	7.2±6.1 ¹	6.7±6.5 ¹
Occupational Position [1-6]	4.7±1.3 ^{2,3,4,5}	3.8±1.8 ^{1,3,4,5}	2.2±1.7 ^{1,2}	2.2±1.5 ^{1,2}	2.4±1.1 ^{1,2}
Currently Working (Yes)	158 (56%) ^{2,3,4,5}	44 (36%) ¹	30 (28%) ¹	22 (25%) ¹	28 (27%) ¹

Note. M=Mean; SD=Standard Deviation. Numbers in superscripts indicate which profiles differ at $p<.05$.

Figure 3.



Note. Profile 1 "High Job Control; Low Environmental Stressors" (ref). Black Solid Line=significant; Black Dotted Line=significant effect for Black participants only; Gray Lines=non-significant; Dotted Lines=differences between Black & White participants; B=Black; W=White.

RESULTS

- Aim 1:** 5 unique profiles emerged (**Figure 2**) that exhibited differences in sociodemographics (**Table 1**)
- Aim 2:**
 - Profile 3 had lower initial cognition than Profile 1 ($b=-0.22$, 95% CI [-0.39, -0.05])
 - Profile 2 had faster cognitive decline than Profile 1 ($b=-0.05$, 95% CI [-0.09, -0.01])
- Aim 3:**
 - Black participants were more likely to belong to more stressful profiles (RRRs from 1.95-3.12, $p<.05$); controlling for education nullified effects
 - Profile 3 related to worse initial cognition among Black participants only (**Figure 3**)

DISCUSSION

- Occupations have distinguishable stressor exposures that have differential impacts on cognitive trajectories
- Workplace disengagement/limited job opportunities and social stress may be particularly detrimental to cognitive health

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