Subjective Cognitive Impairment in Parkinson's disease: Evidence from the University of Florida-Cognitive Function Questionnaire (UF-CFQ)

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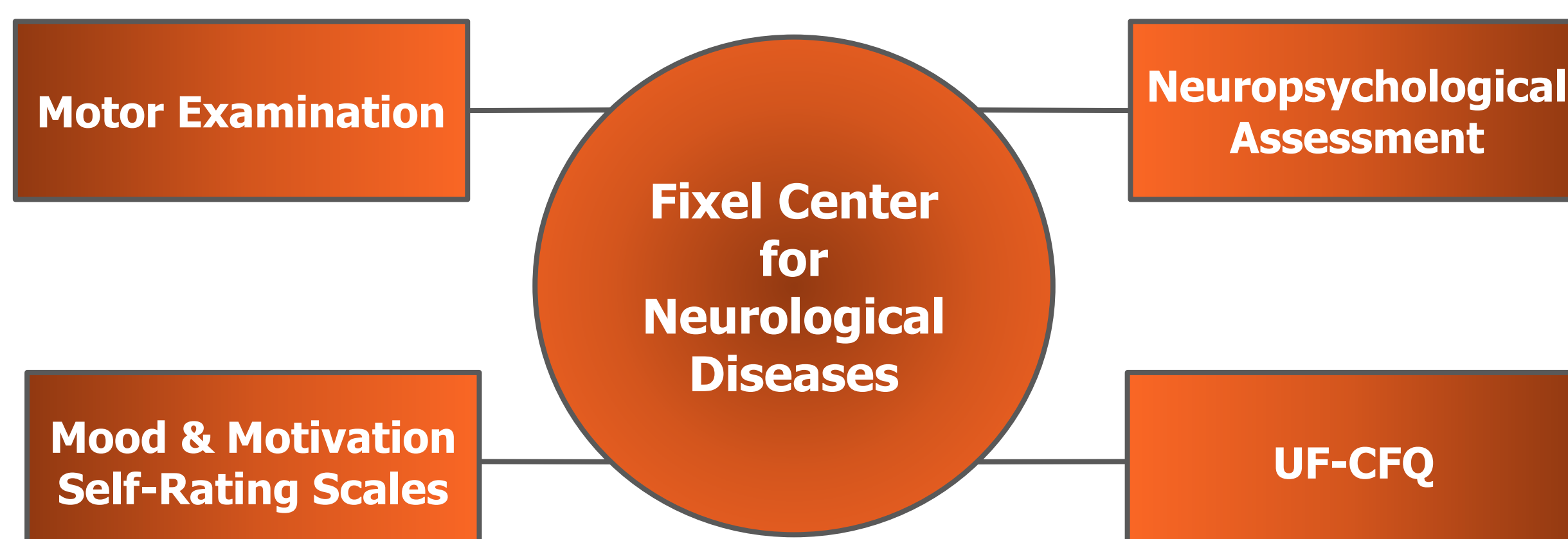
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Introduction & Aims

➢ The overall goal of this study was to examine the clinical utility of a multidomain scale, the UF-Cognitive Function Questionnaire (UF-CFQ) for assessing subjective cognitive impairment (SCI) in people with Parkinson disease (PD). Previous research suggests that PD is not associated with lack of awareness. Even so, few measures exist that specifically examine subjective cognitive complaints in PD.

Aims of the Current Study

➢ **Aim 1:** Identify the psychometric properties of the UF-CFQ

➢ **Aim 2:** Determine whether subgroups of nondemented PD patients could be identified, using empirically derived approaches (cluster analyses), based on responses on the UF-CFQ.

Study Design

Motor Examination

Neuropsychological Assessment

Fixel Center for Neurological Diseases

Mood & Motivation Self-Rating Scales

UF-CFQ

UF-CFQ

➢ An 11-item scale that asks participants to rate a range of cognitive abilities on an 11-point Likert scale (0 – "No Problems" to 10 "Major Problems) within the past two weeks.

➢ Sample items shown below:

1. How would you rate your ability to THINK QUICKLY?

No Problems					Minor Problems					Major Problems
0	1	2	3	4	5	6	7	8	9	10

2. How would you rate your ability to PAY ATTENTION?

No Problems					Minor Problems					Major Problems
0	1	2	3	4	5	6	7	8	9	10

Cognitive Composites

➢ Cognitive Measures: Five composite scores were generated using the following neuropsychological assessments:

Table 1. Neurocognitive domains

Cognitive Domain	Tasks and Brief Description
Executive Function	▪ Trail Making Test – Part B ▪ Stroop Color-Word (Golden Version) ▪ COWAT – Letter Fluency
Attention / Working Memory	▪ WAIS IV – Digit Span
Language	▪ Boston Naming Test ▪ COWAT – Animal Fluency
Episodic Memory	▪ WMS III – Logical Memory Delayed Recall ▪ Hopkins Verbal Learning Test – Delayed Recall
Visuospatial	▪ Judgement Line of Orientation ▪ Facial Recognition Test

Notes: COWAT = Controlled Oral Word Association Test; WAIS = Weschler Adult Intelligence Scale; WMS = Weschler Memory Scales.

Participants

Table 2. Demographics and data from self-report and cognitive composites of the study sample (n = 105).

	Mean (SD)	Range
Demographics		
Age (Years)	63.8 (9.09)	44 – 79
Education (Years)	15.4 (2.51)	12 – 21
Gender (M/F)	67/38	–
Handedness (R/L)	96/9	–
Dementia Rating Scale – Total Score	137 (3.55)	130 – 143
WASI-2 Full Scale IQ Score	106.5 (13.0)	75 – 136
Disease Duration (Months)	117 (77.4)	3 – 388
UPDRS-Part III (Motor Severity)	23.9 (9.95)	4 – 60
‡DBS at Evaluation (Y/N)	22/83	–
Neurocognitive performance		
Executive Function	0.26 (0.84)	-1.67 – 1.72
Attention / Working Memory	0.27 (0.80)	-1.42 – 2.23
Visuospatial	0.12 (1.00)	-3.80 – 3.14
Language	0.11 (0.83)	-2.10 – 2.10
Delayed Memory	-0.67 (0.80)	-2.87 – 0.67
Self-reported mood and motivation total scores		
Apathy Scale	11.0 (5.67)	1– 26
Beck Depression Inventory – II	9.64 (7.15)	0 – 33
State-Trait Anxiety Inventory – State Scale	37.2 (12.2)	0 – 65
State-Trait Anxiety Inventory – Trait Scale	35.7 (11.3)	20 – 73

Notes: WASI-2 = Wechsler Abbreviated Scale of Intelligence-Second Edition; UPDRS = Unified Parkinson's disease Rating Scale.

‡Patients with or without DBS did not significantly differ across variables included in the current study, all ps > .05.

Exclusion criteria: DRS total score < 130

Acknowledgements

Results

➢ **Aim 1: Psychometric Properties**
- All 11 items on the UF-CFQ had strong internal consistency (α = .936).
- Exploratory factor analysis revealed a single factor with an eigenvalue greater than 1.0 that accounted for 62.6% of the total variance, suggesting a unidimensional construct.
- Item and total scores on the UF-CFQ were unrelated to mood and motivation scores, disease-related characteristics, and neurocognitive performance.

➢ **Aim 2: SCI Subgroups**

High SCI Group (n = 35)

Low SCI Group (n = 70)
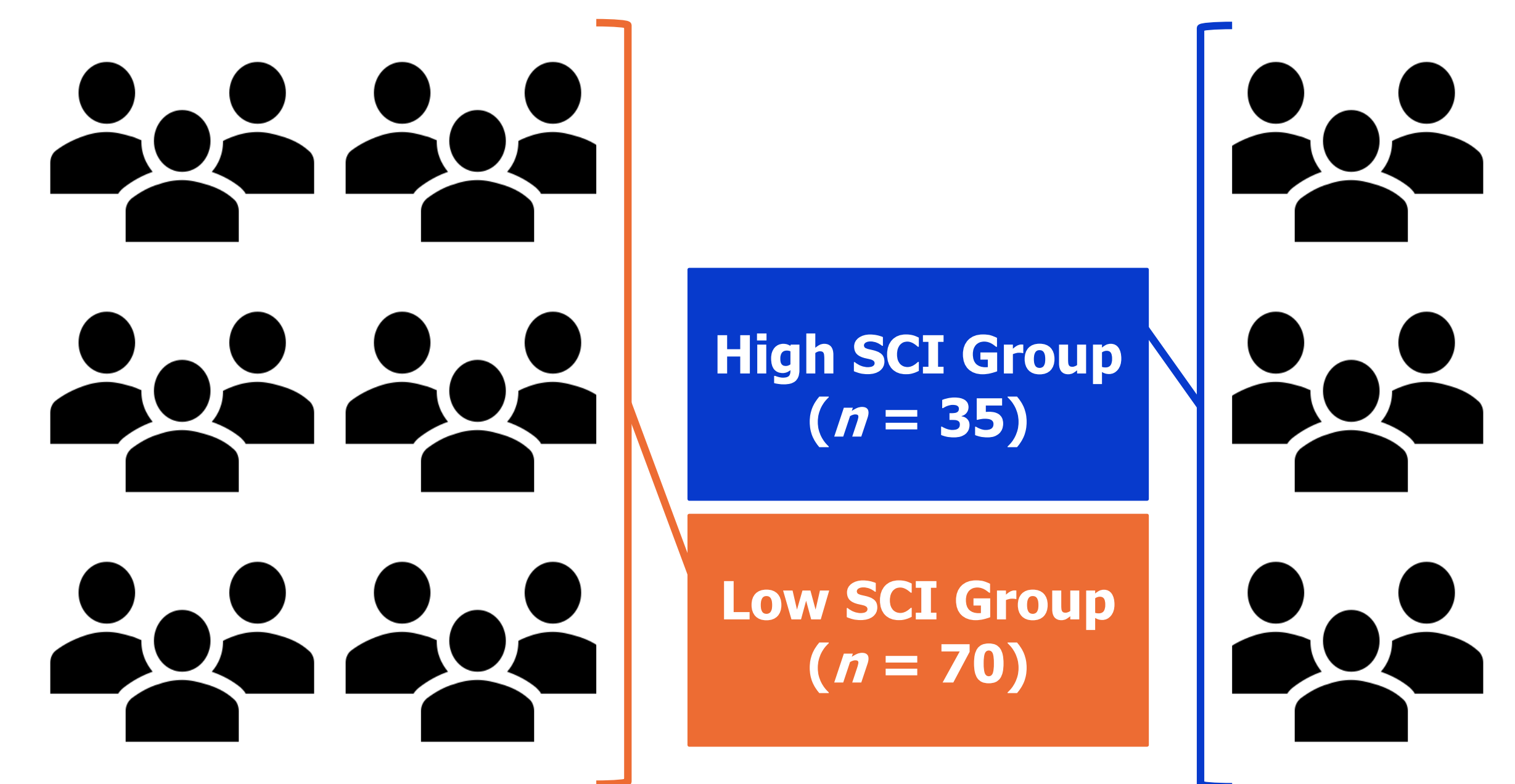
Conclusion

➢ The current study used a data-driven approach (i.e., cluster analysis) to demonstrate that nondemented PD patients could be separated into distinct subgroups based on their subjective cognitive complaints from the CFQ.

➢ Namely, PD patients who endorsed greater cognitive complaints were older and had lower scores of estimated intellect.

➢ In a random subset (n = 38), PD patients with greater cognitive complains tended to report greater difficulties with day-to-day functioning.

➢ Conversely, UF-CFQ item and total scores did not correspond with performance on objective cognitive measures.

➢ In sum, SCI is a complex and potentially useful construct in PD, which underscores the need for the identification of a reliable, sensitive measure.