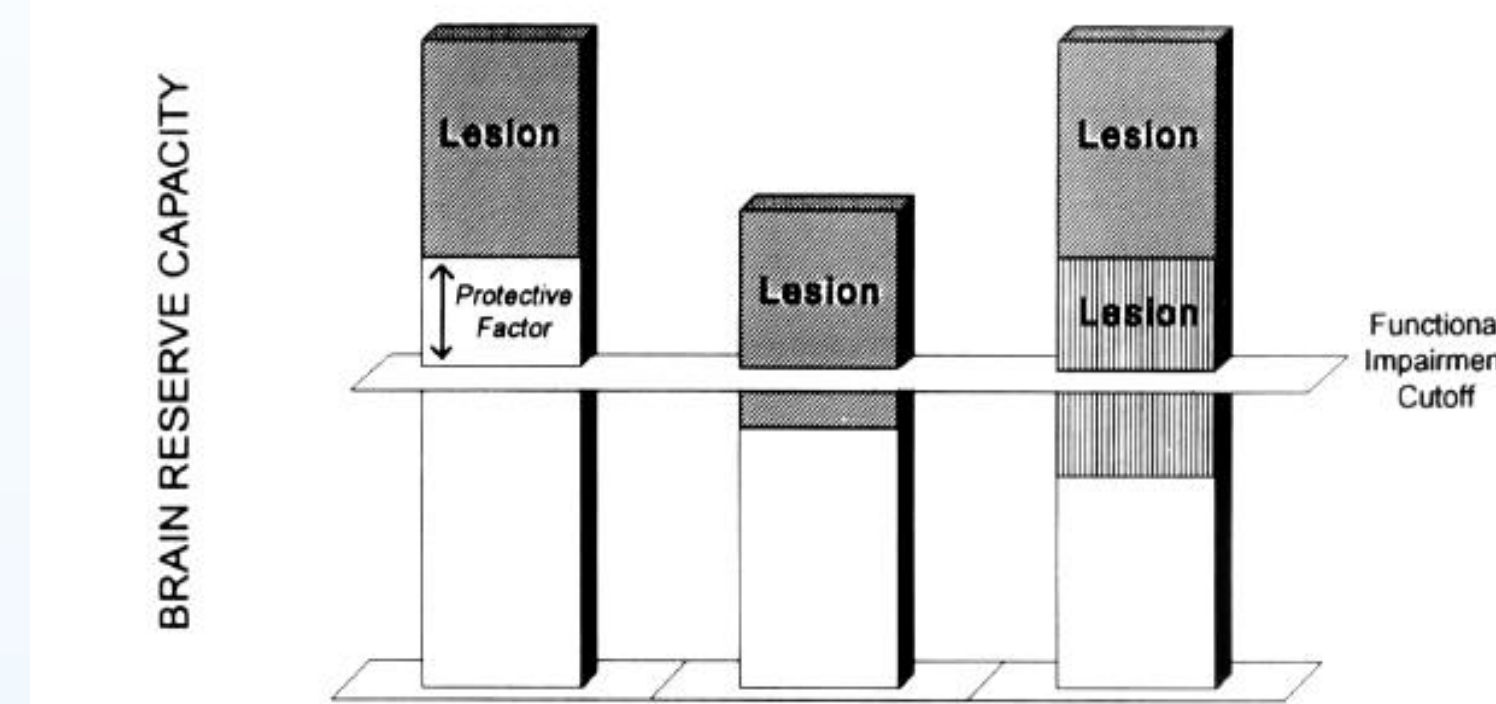


Background

- Deep-Brain Stimulation (DBS)
 - common treatment option for medication-refractory symptoms of Parkinson's disease (PD) and Essential Tremor (ET)
- Implantation sites:
 - Globus pallidus or subthalamic nucleus (PD), thalamus (ET)
- Patient candidacy:
 - determined by interdisciplinary team, including neuropsych
 - impressions need to be *brief* and *actionable*
- UF-DBS Cognitive Rating Scale
 - Clinician-rated Likert-style item ranging from 1 (best) to 5 (worst) fitness for surgery
- Question: Does the DBS-CRS have construct validity?
- Hypothesis: Domains least susceptible to typical disease progression (i.e. delayed memory, language) will have the most influence on DBS-CRS scores.



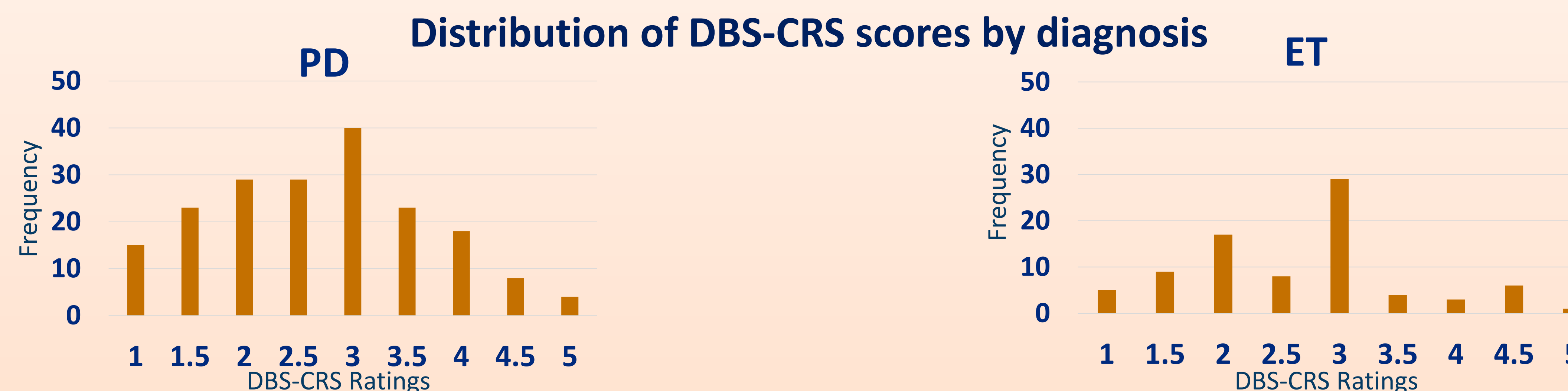
Neuropsychology Cognitive Rating Scale for DBS: 2.5



Participants & Methods

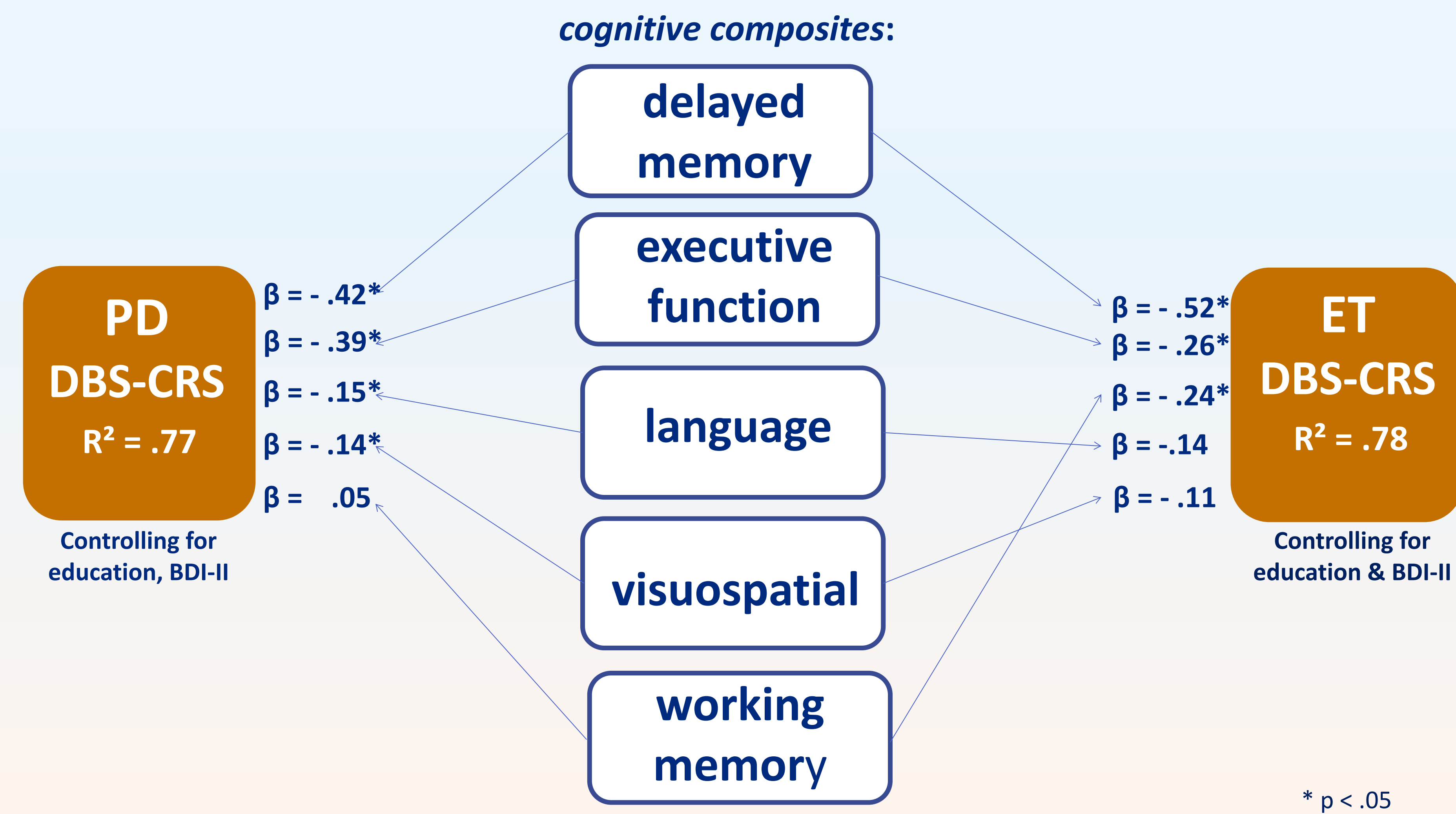
SAMPLE CHARACTERISTICS	PD (n = 190)	ET (n = 80)
All values reported as Mean (SD) or %		
Age (yrs)	64.5 (9.3)	70.4 (7.0)
Education (yrs)	14.9 (2.7)*	14.6 (2.8) *
Gender (%M)	74%	58%
Years since diagnosis	9.1 (5.0)	19.5 (16.5)
Dementia Rating Scale-2 (max 144)	135.2 (6.1)*	134.3 (6.4)*
Beck Depression Inventory-II	10.2 (7.1)*	7.8 (6.8)
Antidepressant medication use (%)	31%	39%
Anti-anxiety medication use (%)	32%	40%
UPDRS Part 2 (Off/On)	38.8/24.9	-
Tremor Rating Scale (Motor/Total)	-	33.8/46.8
COGNITIVE COMPOSITES		
Delayed Memory	WMS-III Logical Memory Delayed Recall + HVLIT Delayed Recall	
Executive Function	Boston Naming Test + Semantic Fluency (Animals)	
Language	Judgment of Line Orientation + Facial Recognition Test	
Visuospatial	WAIS-III Digit Span Forwards + Digit Span Backwards	
Working Memory	Stroop Color-Word + Trail Making Test B + Letter Fluency (FAS)	

* = significant Pearson or Spearman correlation with DBS-CRS score



Results

- Hierarchical regressions were conducted for each diagnosis to learn which cognitive components were best associated with ratings from the Cognitive Rating Scale



Conclusion

- Construct validity of the UF-DBS Cognitive Rating Scale is supported
- Delayed memory and executive functioning are the best composite predictors of DBS-CRS in both diagnoses
 - Could represent concerns of superimposed dementias e.g. Alzheimer's
- Visuospatial composite is a significant predictor of DBS-CRS in PD, but not ET
- Implications: DBS-CRS can ease transdisciplinary communication of neuropsych data in DBS case conferences and help flag patients at risk of adverse post-surgical outcomes
 - single score reflects comprehensive assessment
- Future studies: Predictive utility of DBS-CRS in terms of post-surgical cognitive decline

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