

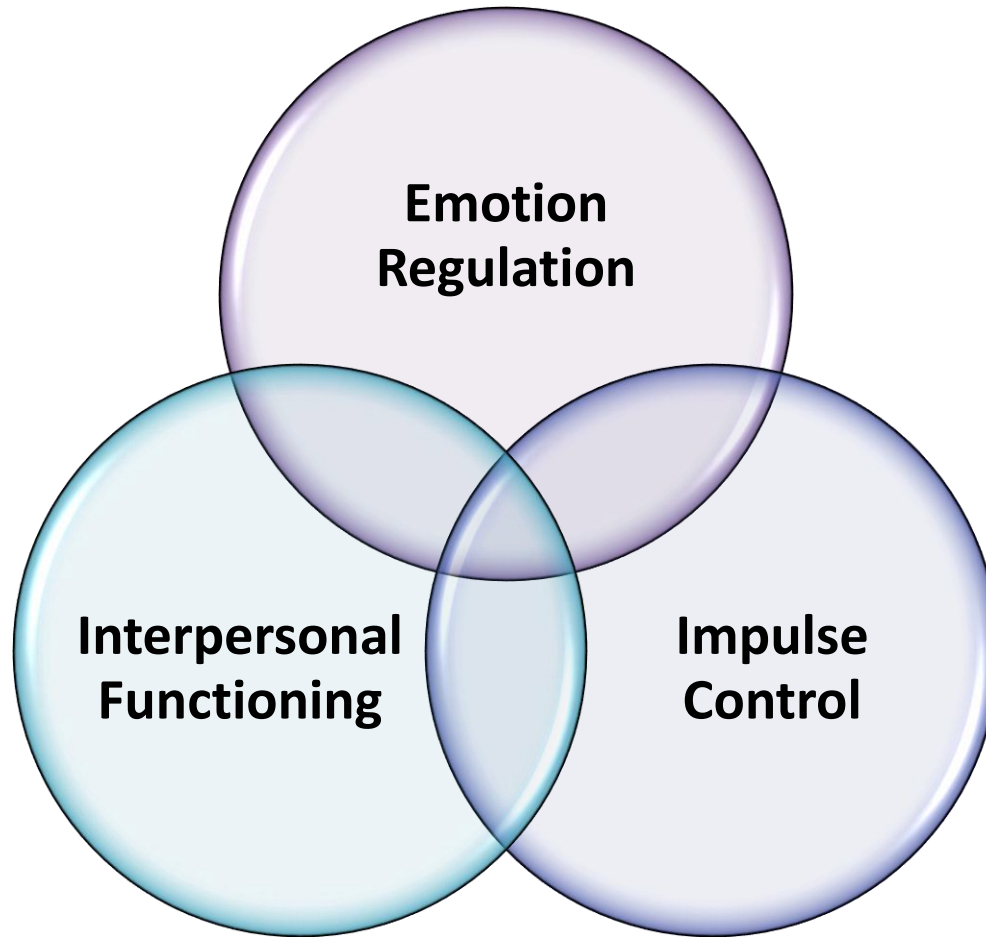
Neuropsychological Correlates of Functional Disability in Outpatients with Borderline Personality Disorder

Anthony C. Ruocco, Ph.D., C.Psych

Department of Psychology

University of Toronto Scarborough

Key Symptom Dimensions of BPD



Disability in BPD

- Epidemiological surveys indicate that BPD may be associated with significant physical and mental disability (Grant et al., 2004)
- Specific domains of functional disability in BPD, however, have not been received significant attention (Skodol et al., 2002)

Neuropsychological Correlates of Disability in Psychiatric Illnesses

- Clear evidence of links between neuropsychological deficits and functional disability in specific patient groups
 - Schizophrenia (Bowie et al., 2008)
 - Executive functions, verbal memory, and working memory
 - Bipolar disorder (Tabarés-Seisdedos et al., 2008)
 - Visual-motor abilities

Neuropsychological Domains



Attention

Working Memory

Episodic Memory

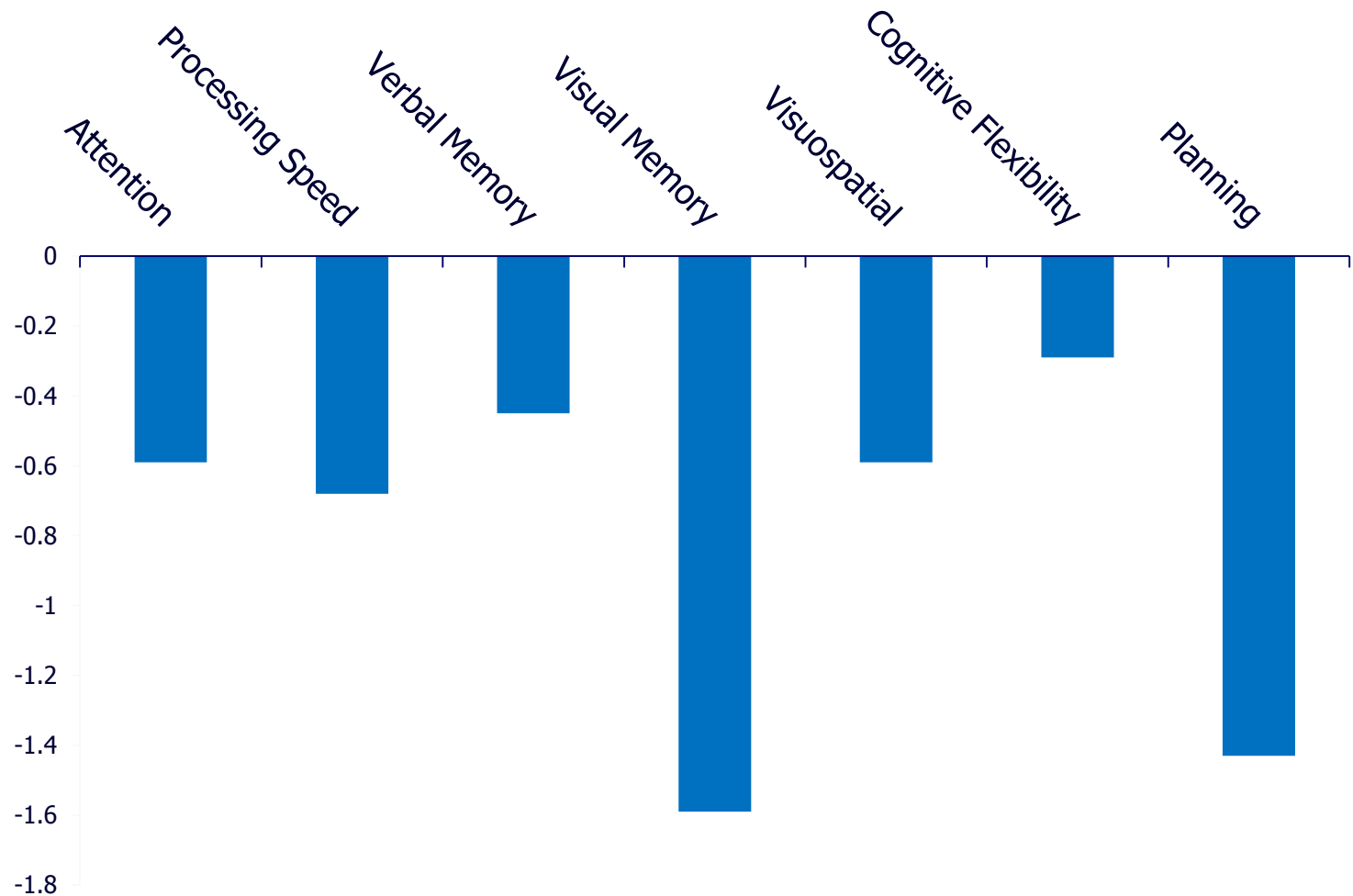
Executive Functions

Visuospatial Abilities

Motor

Perceptual

Neuropsychological Deficits in BPD



Current Study

- Characterized the nature and extent of disability in specific domains for outpatients with BPD
- Evaluated the relationship between functional disability and neuropsychological functioning
- Conducted preliminary analyses to determine whether there may be key neuropsychological deficits among patients reporting high versus low global disability

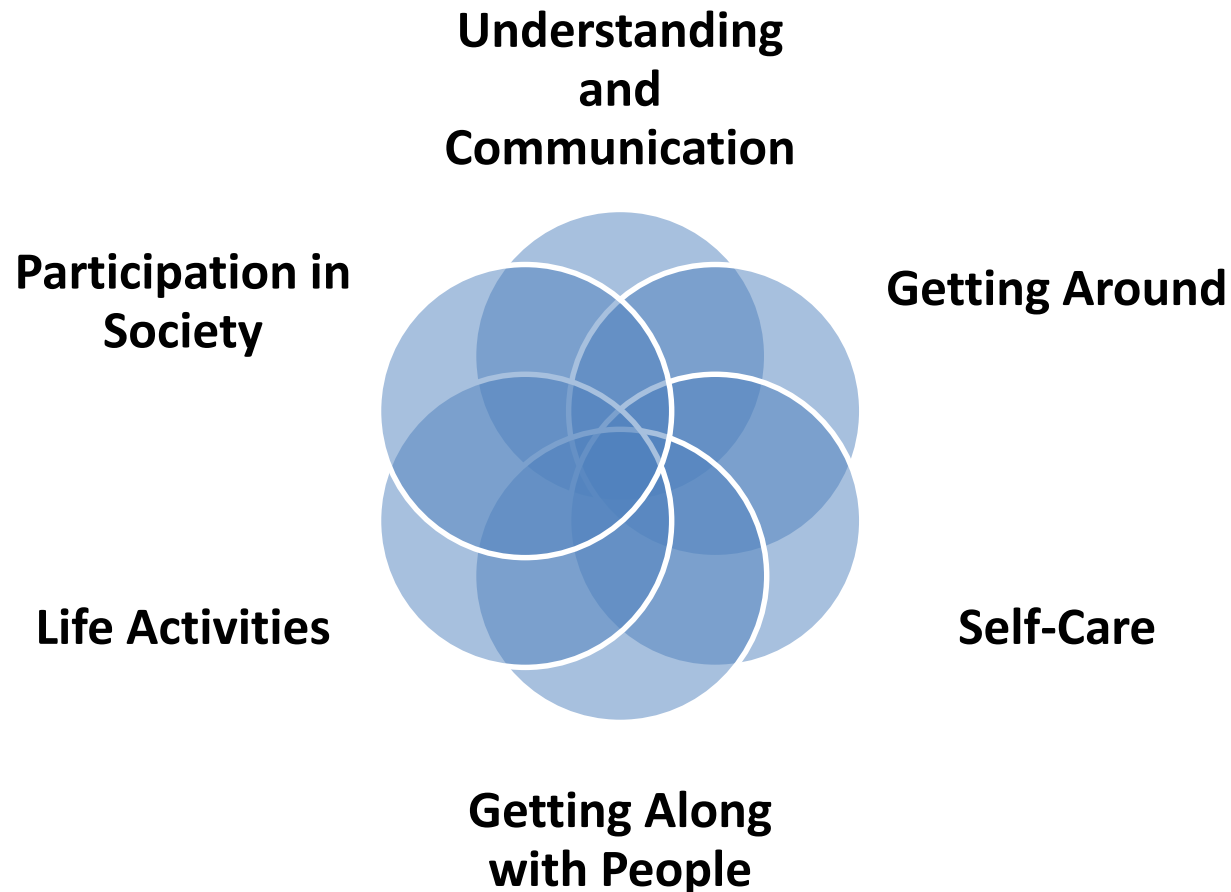
Participants

- 28 outpatients with BPD recruited from the Centre for Addiction & Mental Health as well as online postings
- Mean age of 30.3 years (SD=9.46) and 93% were female
- At time of assessment, completed average of 14.1 years of education (SD=2.5)
- Mean IQ was 109.8 (SD=7.3)

Methods

- Patients were recruited as part of a larger neuropsychological and brain imaging study of BPD
- All participants were required to provide a negative urine toxicology screen before completing laboratory procedures
- All participants passed formal tests of neuropsychological symptom validity

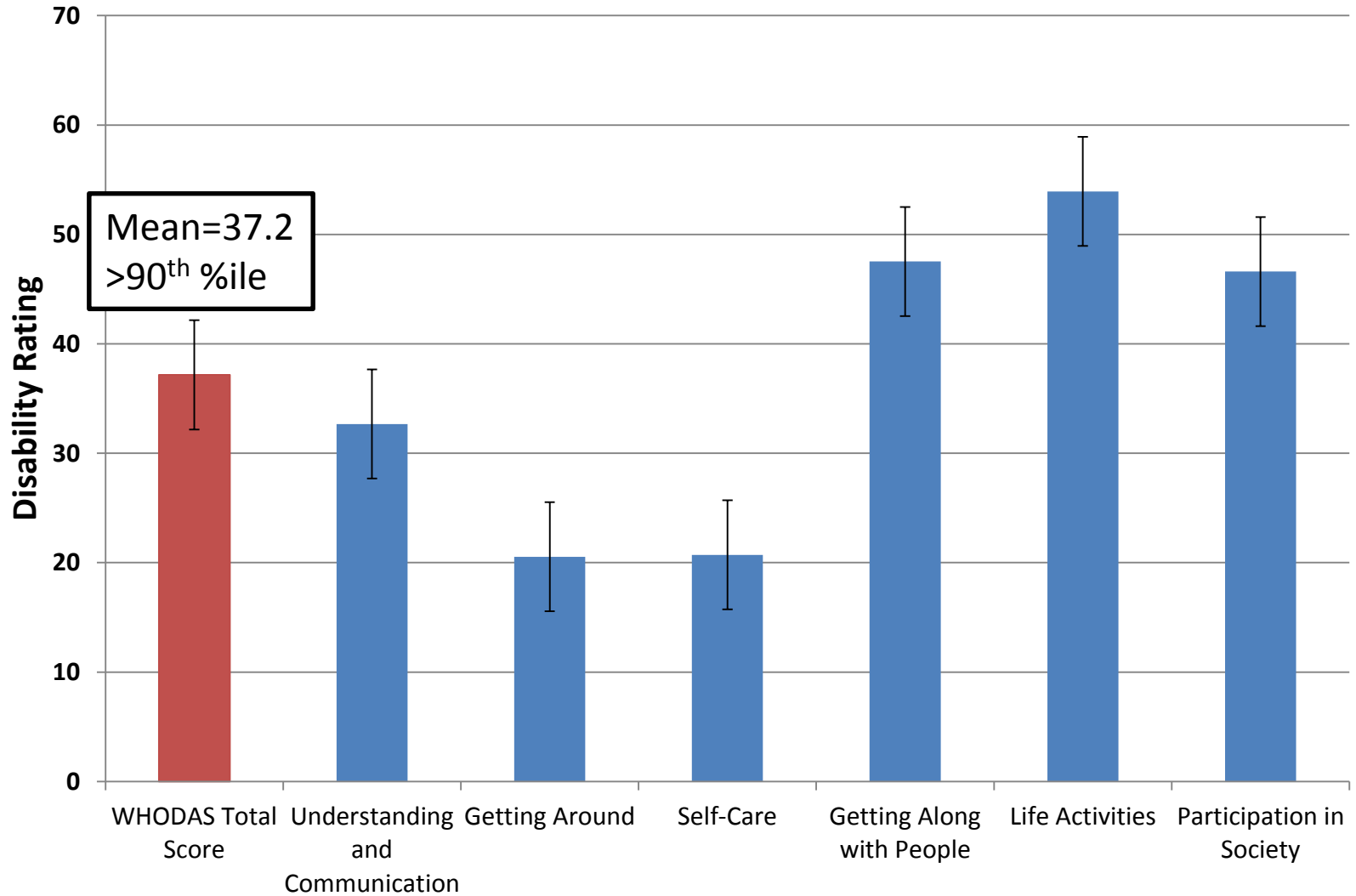
World Health Organization Disability Assessment Schedule (WHO DAS 2.0)



World Health Organization Disability Assessment Schedule (WHO DAS 2.0)

- For the current analyses, an item-response theory scoring algorithm was employed
- Scores ranged from 0 (no disability) to 100 (full disability)

Disability in Outpatients with BPD



Neuropsychological Battery

Visuospatial Construction

- Rey-Osterrieth Complex Figure Task (ROCF) (copy trial)

Verbal Episodic Memory

- Hopkins Verbal Learning Test-Revised (delayed recall)

Visual Episodic Memory

- Brief Visuospatial Memory Test-Revised and ROCF (immediate and delayed recall)

Cognitive Flexibility

- Penn Conditional Exclusion Task (“efficiency” score)

Response Inhibition

- Conners Continuous Performance Test-2 (commissions)

Planning/Problem-Solving

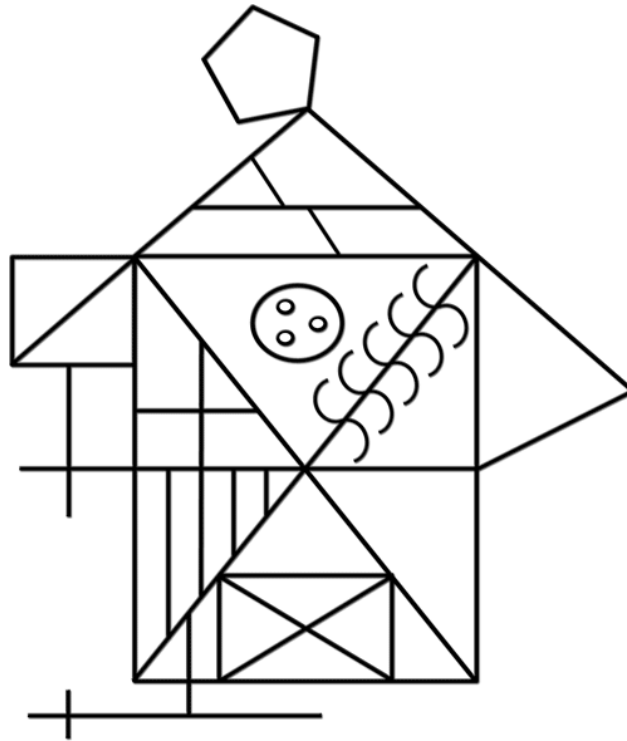
- DKEFS Tower Task (move-accuracy ratio)

Working Memory

- Penn Letter N-back Task (“efficiency” score)

Visuospatial Construction

- Rey-Osterrieth Complex Figure Test



Cognitive Flexibility

- Penn Conditional Exclusion Test



Response Inhibition

- Conners Continuous Performance Test-2

X

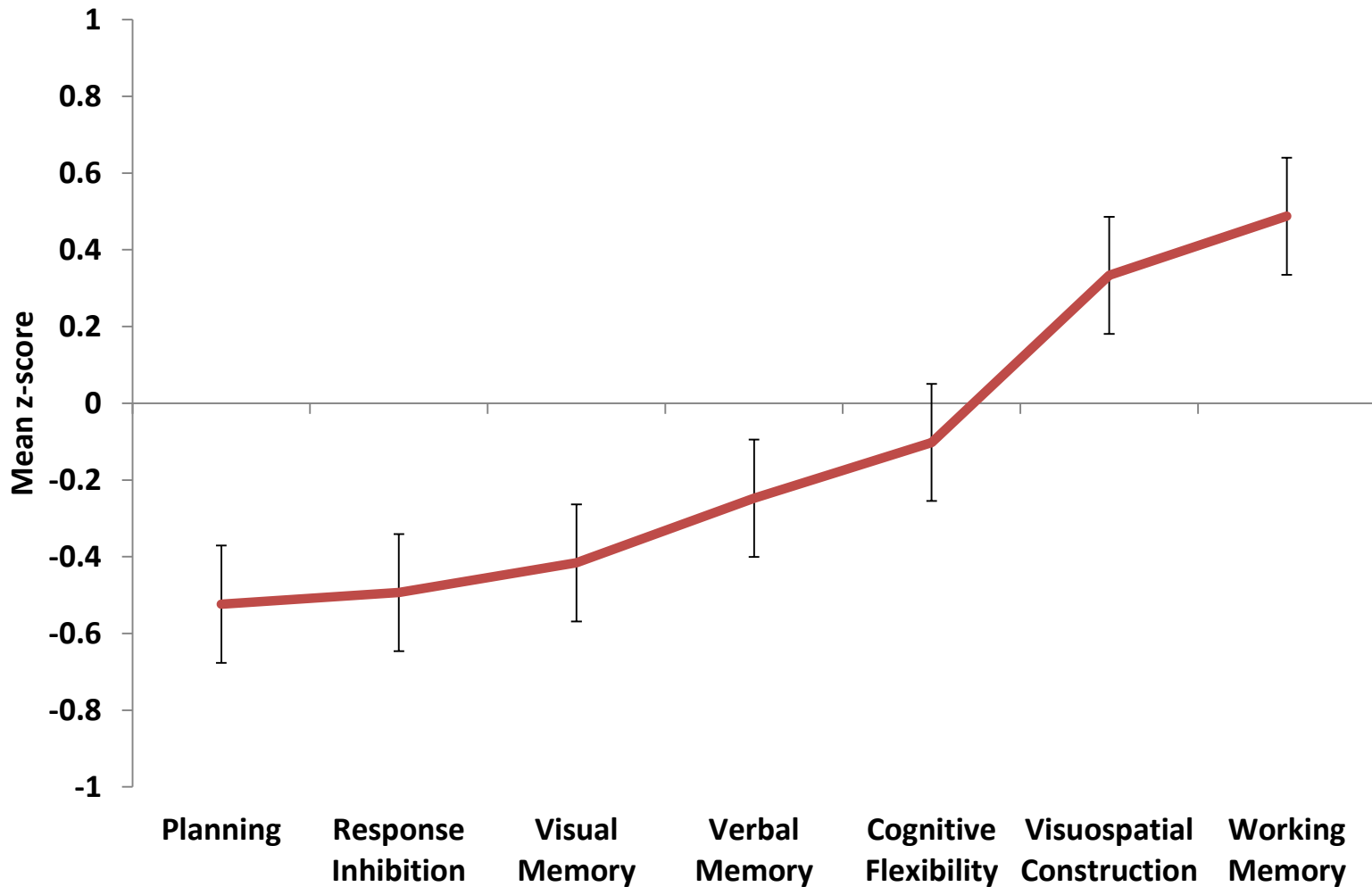
(don't press the button!)

Planning/Problem-Solving

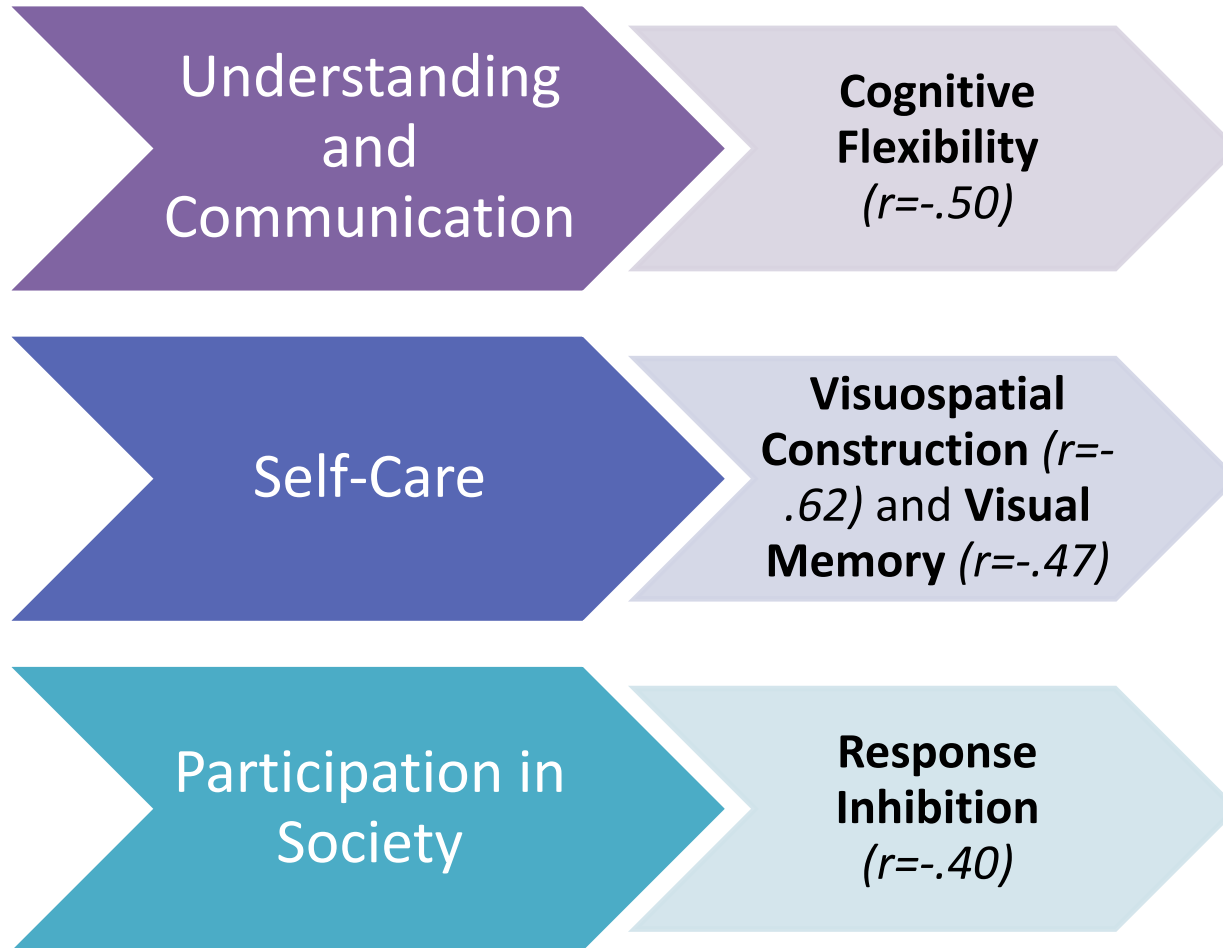
- DKEFS Tower Task



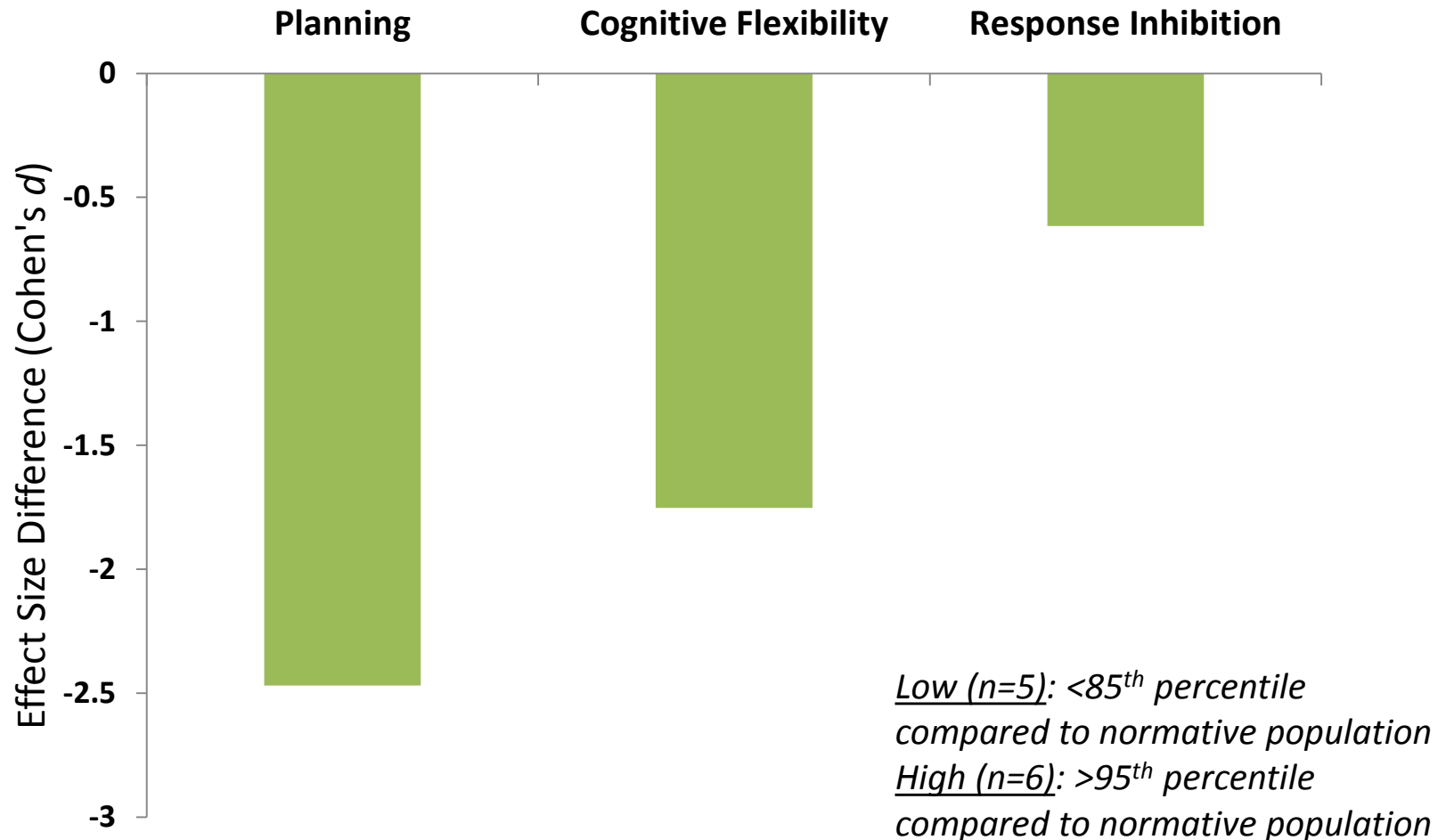
Neuropsychological Functioning



Links between Specific Disabilities and Cognitive Domains



Neuropsychological Deficits for Patients with High vs Low Disability



Implications

- Self-reported difficulties in understanding and communicating with others may be associated with objective deficits in cognitive set-shifting
- Problems with self-care, while the least frequently reported problem by patients, could be underpinned by complex visuospatial and constructional deficits and visual memory problems

Implications (cont'd)

- Obstacles to participating in society may be linked to problems with controlling behaviours
- While preliminary, there may be important subgroups of patients who show high levels of global disability and concomitant deficits in three key executive functions: planning/problem-solving, cognitive flexibility and response inhibition
- These cognitive domains may serve as critical targets in rehabilitation programs for more severely disabled patients with this illness

Limitations and Future Research

- Determine whether nature and extent of functional disability in BPD differs from disorders which frequently co-occur with BPD (e.g., major depression, PTSD) (Grant et al., 2004)
- Evaluate the differential and shared contributions of neuropsychological functioning and core symptom dimensions (e.g., emotion dysregulation) to disability

Acknowledgments

- Clinical Neurosciences Laboratory at UTSC
- Borderline Personality Disorder Clinic at CAMH



Operating Grant



Young Investigator Award