Response inhibition interacts with symptom subtype 
in severe obsessive-compulsive disorder

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**INTRODUCTION**

- Ample evidence suggests that response inhibition is impaired in obsessive-compulsive disorder (OCD). This cognitive deficit may be a manifestation of lateral orbitofrontal loop dysfunction, which could itself serve as an endophenotypic marker for OCD and related disorders. Despite such findings, little research to date has evaluated the putative relationship between baseline response inhibition and psychosocial treatment response.

- Further, few studies have assessed the relationship between symptom cluster severity and treatment outcome. The studies that do exist have produced equivocal results.

- Finally, there have been few studies that have evaluated the variability in response inhibition by symptom subtype. None have looked at implications for treatment.

- The goal of the current study was to determine whether response inhibition and symptom subtype predicted course of treatment in patients undergoing intensive residential treatment (IRT).

**METHOD**

- 41 patients with severe OCD completed the study. Participants were consented prior to engaging in IRT at the McLean OCD Institute.

- Overall symptom severity was evaluated using a self-report version of the Yale-Brown Obsessive-Compulsive Scale (YBOCS; Goodman et al, 1989).

- Symptom subtype and severity were evaluated using the Dimensional Obsessive Compulsive Scale (DOCS; Abramowitz et al., 2010). The DOCS contains four subscales: contamination concerns (DOCS1), harm obsessions/checking (DOCS2), unacceptable thoughts (DOCS3), and symmetry/exactness concerns (DOCS4).

- Response inhibition was assessed using the Stop-Signal Task (Verbruggen and Logan, 2008).

- A linear mixed modelling approach was used to determine course of treatment as a function of time (using weekly assessments), symptom cluster at admission (DOCS), and response inhibition (SSRT). We tested for linear, quadratic, and cubic polynomial models to evaluate variations in rate of change across our predictors.

**RESULTS**

- Results indicated an interaction between SSRT and DOCS3, such that poor response inhibition predicted a plateau in symptom improvement following the second week of IRT among those with relatively fewer unacceptable thoughts.

- Among patients high in DOCS3, there was no evidence of a relationship between response inhibition and treatment course.

- High SSRT (i.e., poor response inhibition) and a high score on DOCS3 (i.e., high levels of unacceptable thoughts) each predicted worse overall Y-BOCS scores.

**DISCUSSION**

- Greater impairment in response inhibition was associated with less linearity in symptom improvement trajectory, but only in the relative absence of unacceptable thoughts.

- As expected, there was an inverse relationship between response inhibition and symptom severity. Higher levels of unacceptable thoughts also predicted worse OCD symptoms overall.

- These data indicate that the extent that symptom subtype predicts course of treatment depends on dispositional response inhibition.

- Neurocognitive profiling may prove beneficial to understanding trajectories of improvement in IRT for severe OCD.

- The push in the field is to move in the direction of ‘research domain criteria’ in the service of better classification of psychiatric illness on the basis of both observable behavior and neurobiological measures (Insel et al., 2010).

**REFERENCES**


