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An examination of the relationships between neuropsychological and self-reported cognitive rigidity and attention to detail on eating disorder symptoms

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INTRODUCTION

- Cognitive rigidity and heightened attention to detail (ATD) are prominent features within eating disorders (ED).^{1,2}
- However, agreement as to the best way to assess these constructs remains equivocal.
- Aim/Objectives: To investigate performance on neuropsychological measures of set-shifting and ATD, and assess their relationship to self-report questionnaires assessing cognitive rigidity, attention to detail, and ED symptoms.

METHODS

 Participants were 68 adult females recruited from the community ($n=44$) and ED services ($n=24$; 75% Anorexia Nervosa).

All participants were tested individually and completed self-report measures of cognitive rigidity, ATD, and ED symptoms:

 Detail and Flexibility Questionnaire (DFlex)³

Eating Disorder Examination Questionnaire (EDE-Q)⁴

Performance-based measures assessing set-shifting and ATD:

 Wisconsin Card Sorting Test (WCST)⁵ see Figure 1.

Group Embedded Figures Task (GEFT)⁶ see Figure 2.

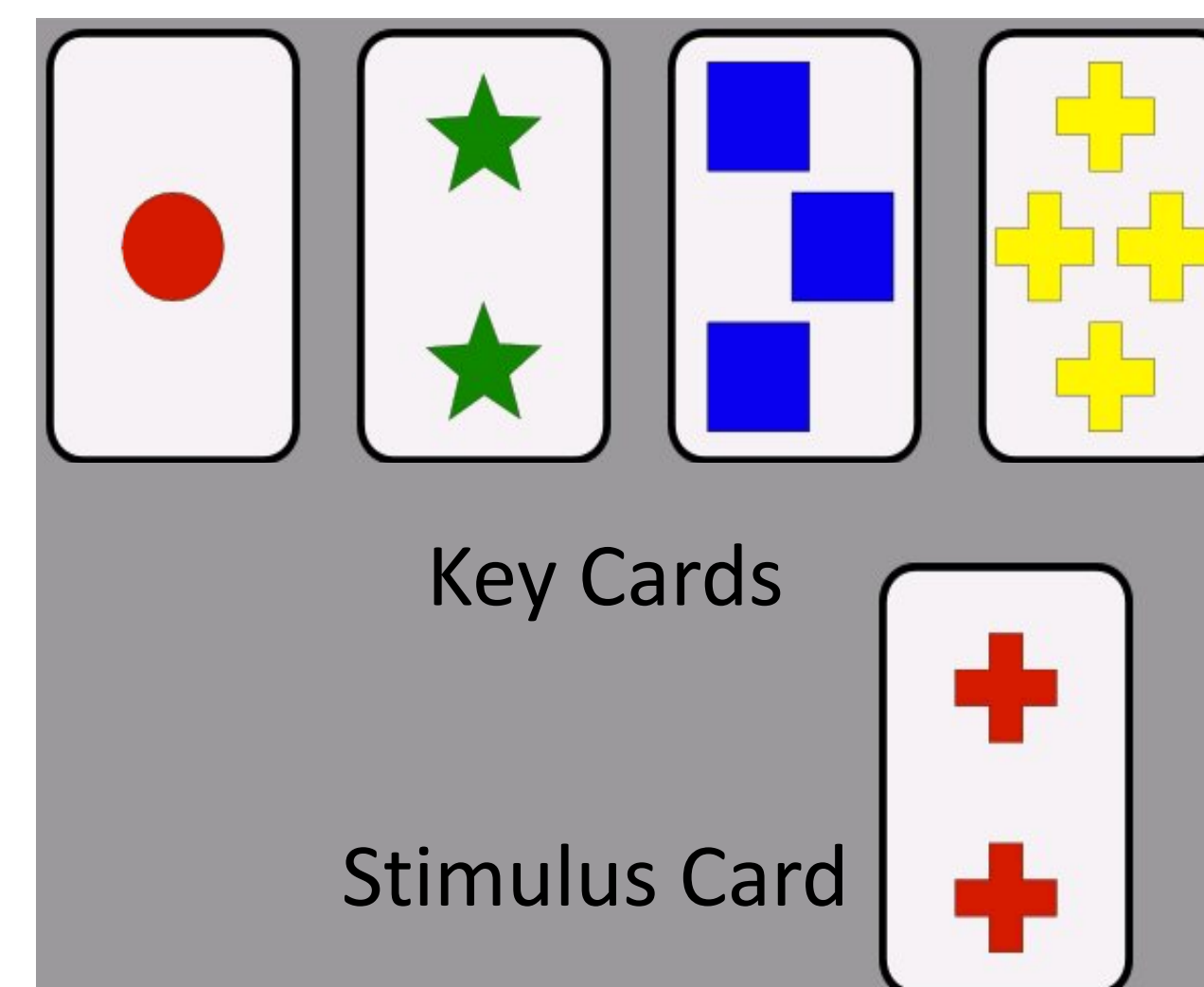


Figure 1. Wisconsin Card Sorting Test Example

Participants sort cards by matching the stimulus cards with a key card (either by shape, colour or form). Once a participant can reliably sort the cards, a new sorting principle is introduced.

Set-shifting/cognitive inflexibility: The number of perseverative errors made after a sorting rule changes.

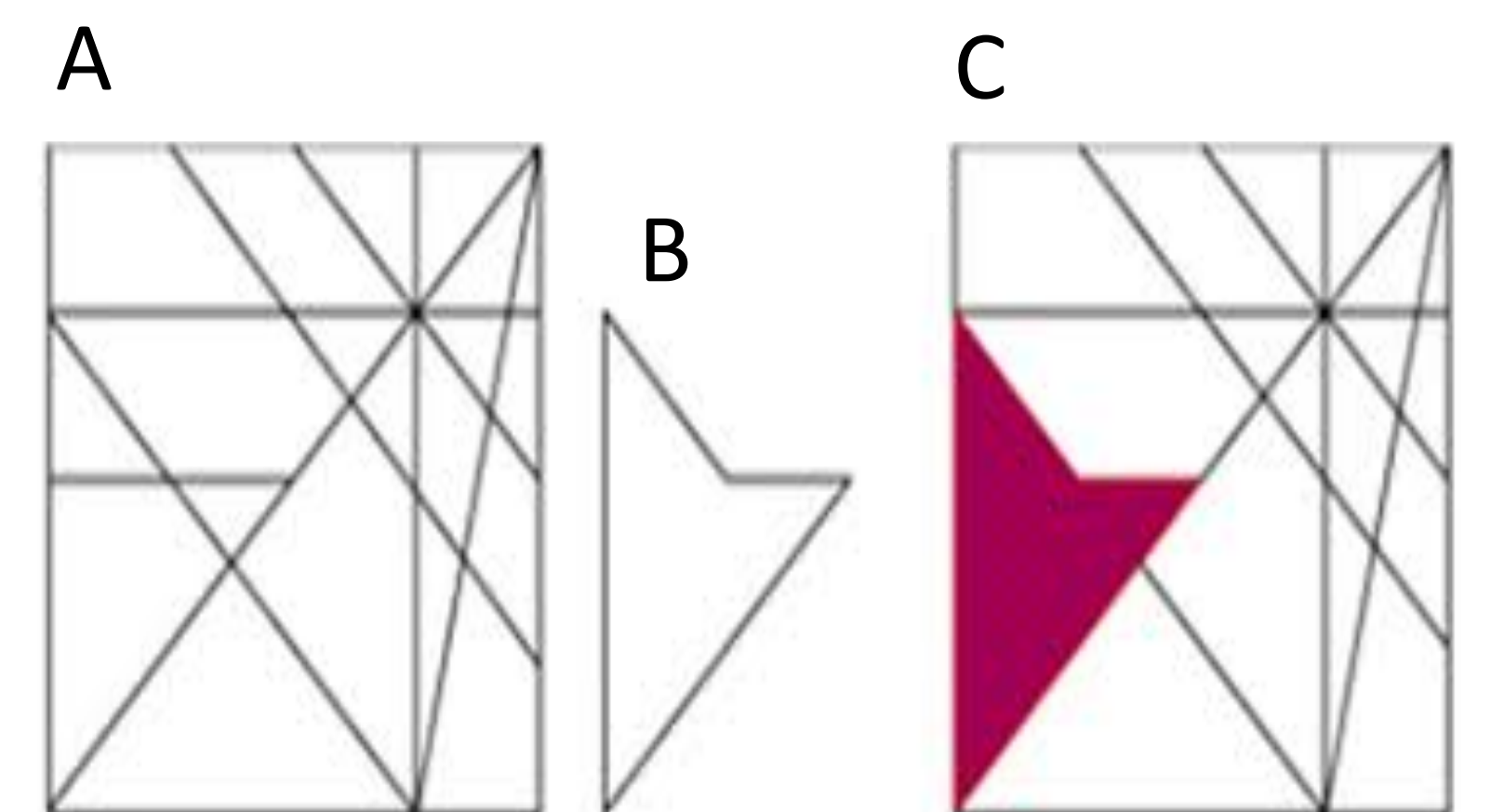


Figure 2. Group Embedded Figures Task Sample Item

Participants are presented with an image (A) and need to locate the target shape (B) within the complex figure (C).

Heightened detail processing or ATD: Higher scores on the GEFT.

Age

M= 21.75
SD= 6.05

BMI

ED Sample
M= 16.83
SD= 3.99

BMI

Community
M= 19.75
SD=2.84

EDE-Q

Global
ED Sample
M= 23.17
SD=5.80

EDE-Q

Global
Community
M= 13.65
SD=9.38

RESULTS

Total perseverative errors on the WCST were not associated with self-reported cognitive rigidity ($r= 0.03$, $p=.840$) (Figure 3A). Similarly, GEFT performance was not associated with self-reported ATD ($r= -.22$, $p=.067$), (Figure 3B).

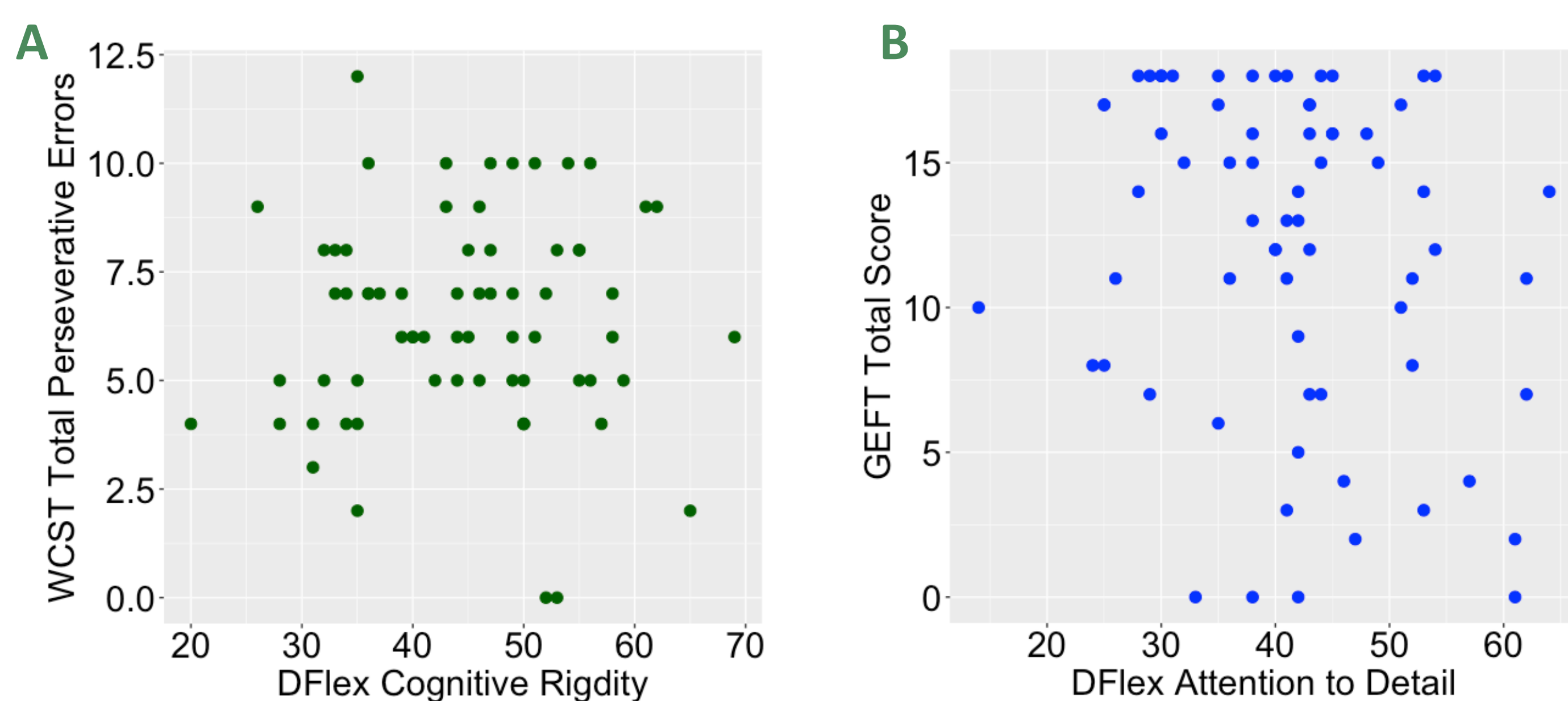


Figure 3. Scatterplot of the relationships between performance based and self-report measures of cognitive rigidity and attention to detail

Scores for the WCST and GEFT were not significantly associated with EDE-Q global scores ($r=.06$ and $r=-.16$ respectively) (Figure 4). Both the DFlex ATD and cognitive rigidity subscale scores, were significantly associated with EDE-Q global scores ($r=.32$ and $r=.50$ respectively) all p 's = $<.001$ (Figure 5).

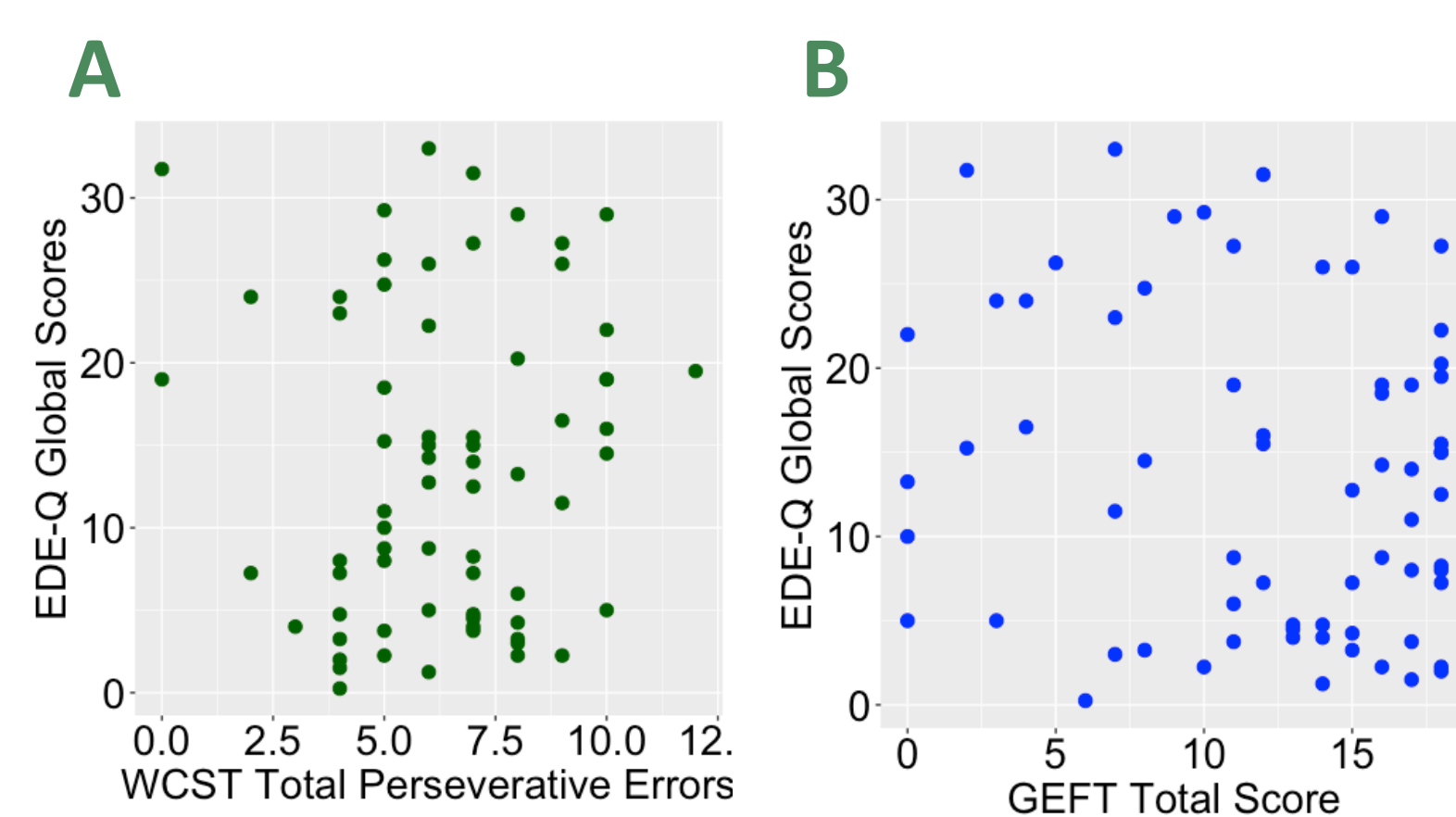


Figure 4. Scatterplot of the relationships between performance based cognitive rigidity, attention to detail to ED symptoms

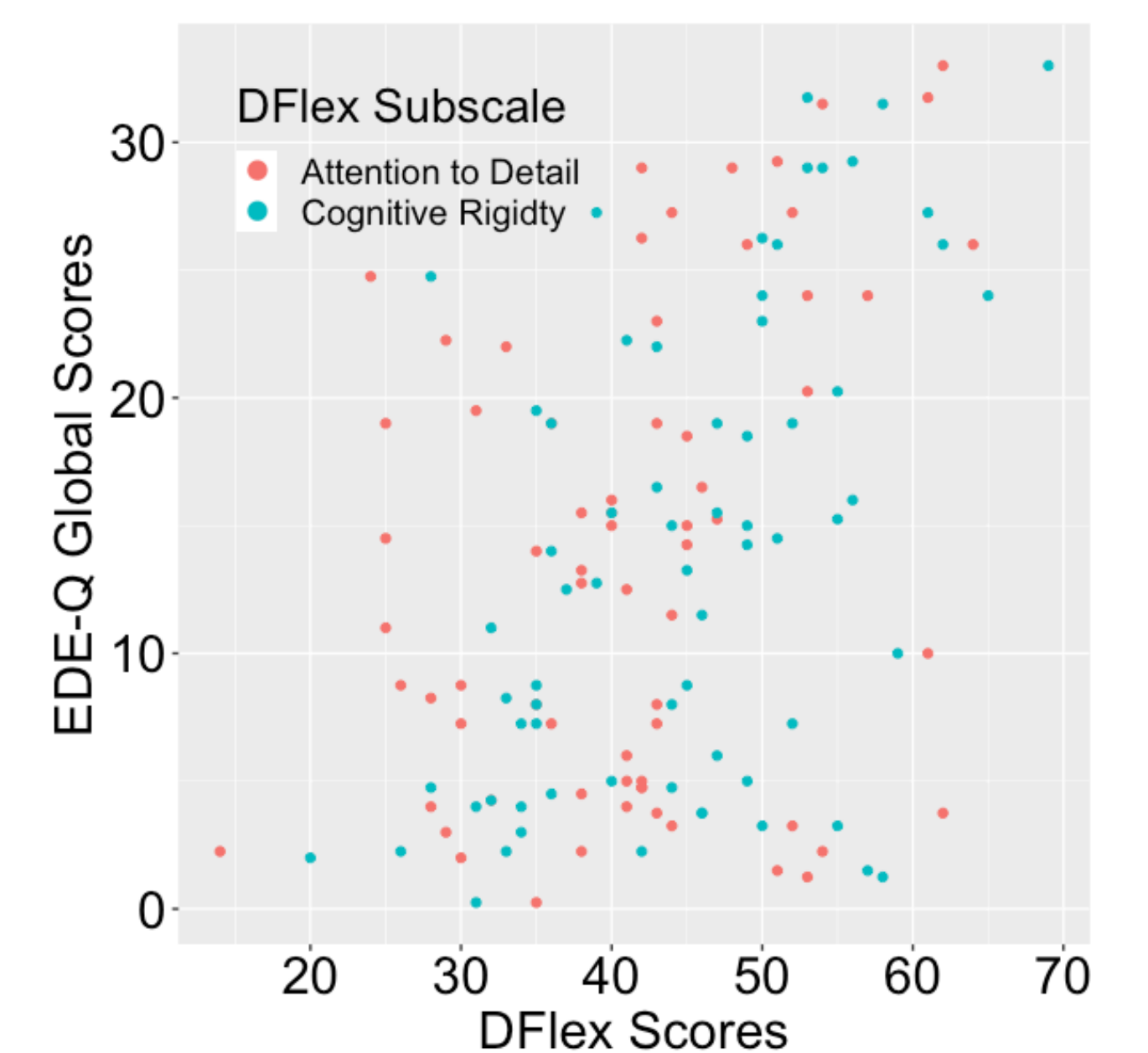


Figure 5. Scatterplot of the relationships between DFlex cognitive rigidity and attention to detail to ED symptoms

DISCUSSION

- Self-report, but not performance-based, measures of cognitive rigidity and ATD were associated with ED symptoms.
- The non-significant correlations between self-report and neuropsychological measures may suggest these measures are assessing discrete aspects of these psychological processes.
- Given the empirical interest in establishing whether cognitive rigidity and heightened ATD represent endophenotypes of EDs, further research is needed to verify whether self-report measures, such as the DFlex, are in fact assessing the purported cognitive styles. Such research would provide greater confidence to interpret the existing literature regarding self-reported cognitive rigidity and heightened ATD and their relationships to EDs.

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