students may rely on other, more basic cognitive processes. These results may prove beneficial in guiding the development of rehabilitative interventions for MA in clinical samples.

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78 Examining the Association Between a Patient's Diagnosis and Occurrence of The First Error on Trails B

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Objective: Clinical and experimental neuropsychology patients are not always able to complete a given test due to limitations in their functioning and it can lead to frustration and time wasted, leading researchers to examine the value of metrics that can be derived earlier in a test so as to ascertain and salvage useful information. The Trail Making Test (TMT) is an oft-utilized test of executive function and has been the focus of such exploration (e.g., first error vs. time to complete Trails B which can be lengthy in dementia cases and lead to discontinuation and loss of scorable data; Christidi et al., 2013; Correia et al., 2015). The present retrospective study utilized archival chart review to examine the association between a patient's diagnosis and occurrence of the first error on Trails B (TB1err).

Participants and Methods: De-identified data was culled from adult private practice records (n=137) in the northeastern United States (the study was conducted in compliance with local IRB review). Trails A and B times, as well as Digit Span scores (for checking construct validity) were pulled from reports, and Trails B record forms were scored to extract the enumerated stimulus where any first error was observed in the patient's rendering of the trail connecting alternating numbers and letters. Paired t-tests compared the average TB1err of normative individuals (no diagnosis) with patients with a primary diagnosis of mood disorder, traumatic brain injury (TBI), mild cognitive impairment (MCI), or dementia. Additionally, Pearson's correlations were computed comparing TB1err with Trails B time, and another test of executive function (Digit Span backwards).

Results: The order of diagnoses according to the average occurrence of the first error on Trails B (from later, to sooner occurrence) was as follows: normative (no diagnosis), mood disorder, TBI, MCI, and finally dementia. There was a significant difference on this first error metric (TB1err) when comparing normative and dementia patients ($p = .03$; 8.3 vs 4.2 for the average enumeration of 1st error on Trails B). Furthermore, significant correlations were found between this derived TB1err metric and Digit Span backwards ($r = .31$; $p <.001$) as well as overall TrailsB performance ($r = -.39$; $p < .001$).

Conclusions: The present study adds to a growing literature on the utility of deriving test metrics to maximize useful data for clinical and experimental neuropsychology. Results from this retrospective chart review indicate additional validity data to support the use of extracting the first error on Trails B as a way to salvage useful data even when a patient may not be able to complete the full TMT as designed. In this preliminary sample there was a significant difference found for normative vs. dementia patients on this derived TB1err metric and suggests it is worthy of additional research to see if it can reliably differentiate various diagnoses. We expect this finding will also be useful in experimental designs wherein time is often limited and loss of data due to incomplete testing might be avoided by extracting the first error on TrailsB.