**Introduction**

- Prior research has indicated that both Reliable Digit Span (RDS) and Reliable Digit Span - Revised (RDS-R; Reliable Digit Span with the sequencing trial added) can be useful as embedded performance validity tests (PVTs). Only a few studies, however, have directly compared these two measures against one another.

- Spencer et al. (2010) found that RDS-R resulted in a higher AUC than RDS (.71 vs..64, respectively). A cutoff score ≤6 for RDS yielded a sensitivity (SENS) of .18 and a specificity (SPEC) of .96. A score of ≤11 for RDS-R resulted in a SENS of .59 and a SPEC of .89; a score of ≤10 resulted in a SENS of .25 and a SPEC of .95.

- Young et al. (2012) found that RDS and RDS-R had the same AUCs (.67). An RDS cutoff of ≤6, however, had a lower SENS (.24) than an RDS-R cutoff of ≤10 (.32), when SPEC was held near .90 (.92 and .89, respectively).

- Reese et al. (2012) compared undergraduates simulating memory problems, controls with no history of head injury, and controls with a history of a mild head injury. The RDS cutoff of ≤6 resulted in a SENS of .43 with SPEC of .98 and .99 in the head injury and no head injury groups, respectively. The RDS-R cutoff of ≤11 yielded a SENS of .59 and a SPEC of .94 for head-injured controls and a SPEC of .97 for non-head injured controls.

- The purpose of the present study was to further examine RDS and RDS-R in the detection of sub-optimal performance among individuals undergoing outpatient neuropsychological evaluation.

**Methods**

- Participants were patients referred for neuropsychological evaluation; individuals were excluded if they had a diagnosis of dementia or intellectual disability.

- Individuals were classified according to PVT results (excluding RDS and RDS-R). One hundred and sixty-four patients passed all PVTs administered and were compared with 45 patients who failed 2 or more PVTs.

- Participants were 51% male and 91% white, with an average age of 47.6 years (SD = 14) and 14.2 years of education (SD = 2.6).

- Receiver operating characteristics (ROC) were utilized to compare these two groups to determine area under the curve (AUC) and SENS and SPEC rates for RDS and RDS-R.

**Results**

- The AUC for RDS and RDS-R is presented in Table 1.

- See Table 2 for SENS and SPEC for RDS; see Table 3 for SENS and SPEC for RDS-r.

**Conclusions**

- The results of the ROC/AUC indicate that both RDS and RDS-R demonstrate "good" discrimination of clinical samples.

- A cutoff score of ≤6 for RDS and ≤10 for RDS-R would be needed to maintain SPEC at or above .90. Doing so, however, would come at the expense of lowered SENS for both measures.

- When SPEC is at or above .90, RDS-R produced higher SENS than did RDS.

- Research should continue to examine RDS-R as an embedded PVT, which may be superior to RDS.

- Future research should examine the performance of RDS-R among specific diagnostic groups and among participants with greater ethnic and socioeconomic diversity.

**References**

