<table>
<thead>
<tr>
<th>Outcome Measure</th>
<th>Symbol Digit Modalities Test (SDMT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity to Change</td>
<td>Yes</td>
</tr>
<tr>
<td>Population</td>
<td>Adult</td>
</tr>
<tr>
<td>Domain</td>
<td>Neuropsychological Impairment</td>
</tr>
<tr>
<td>Type of Measure</td>
<td>Objective Test</td>
</tr>
<tr>
<td>ICF-Code/s</td>
<td>b1</td>
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</tbody>
</table>

**Description**

The Symbol Digit Modalities Test (SDMT) is used to assess divided attention, visual scanning, tracking and motor speed. Using a reference key, the examinee has 90 seconds to pair specific numbers with given geometric figures. Because examinees can give either written or spoken responses, the test is well suited for use with individuals who have motor disabilities or speech disorders. Because it involves only geometric figures and numbers, the SDMT is relatively culture free as well and can be administered to individuals who do not speak English.

It takes approximately 5 minutes to complete the entire test.

Scoring involves summing the number of correct substitutions within the 90 second interval (max = 110).

**Properties**

Test-retest reliability: .80 for the written version and .76 for the oral version in normal adults with an average retest interval of 29 days (Smith, 1991). Test-retest reliability is .70 for a population with sports concussion (Echemendia et al., 1999).

**Construct validity:** The correlation between oral and written forms in .78 (Smith, 1991) suggesting the two forms are not interchangeable. Correlations between SDMT and the Wechsler Digit Symbol/Coding subtest range from .62 to .91 (Bowler et al., 1992; Hinton-Bayre et al., 1997; Morgan & Wheelock, 1992), which is not surprising given the similar format. SDMT taps scanning and tracking aspects of attention, similar to the TMT (Shum et al., 1990) and measures aspects of selective attention, demonstrated through relationships to the TEA (Bate et al., 2001; Chan, 2003).

**Concurrent validity:** The oral form has been shown to be superior to other tasks of reaction time (Stroop and PASAT) in assessing information processing impairments in TBI (Ponsford & Kinsella, 1992). TBI patients perform significantly poorer than controls, and performance differentiates between individuals in the early versus late stages of the recovery process (Bate et al., 2001). SDMT is sensitive to diffuse axonal injury, as well as recovery, in patients with severe TBI (Felmingham et al., 2004).

**Advantages**

- Alternate forms are available.
- Quick and easy to administer.
- Both oral and written versions allows administration to patients.
with motor disabilities or language disorders.

- Sensitive to TBI, including diffuse axonal injury.

**Disadvantages**

- Similar to the Wechsler subtest Digit Symbol/Coding.
- Original adult norms are outdated (1975) – need to acquire alternate norm sources (e.g. Jorm et al., 2004).
- Difficult to differentiate between attentional deficits and processing speed when performance is impaired.

**Additional Information**

**Reviewers**

Skye McDonald

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**References**


