The Development of an Online Neuropsychological Test Battery: The Amsterdam Cognition Scan
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In cognitive research there is a need for efficient research tools that allow for large-scale cognitive data collection. Traditional (face-to-face) neuropsychological testing is too time-consuming and labor-intensive to, for example, learn more about the development of cognitive impairment (e.g. risk factors and underlying mechanisms) in highly diverse cancer patients. In this context, online neuropsychological testing is potentially more user-friendly and efficient than traditional supervised testing, because it allows participants to complete assessments unsupervised (from home). However, thus far, few online tools are available with adequate psychometric properties and accompanying reference data.

Therefore, we developed a new online neuropsychological test battery for unmonitored assessments: the Amsterdam Cognition Scan (ACS). The ACS is based on seven traditional neuropsychological tests, measuring a wide range of cognitive functions. It is designed to be technologically accessible (minimum requirements on hardware, internet browser, and operating system) and relatively independent of individual computer, language, and motor skills.

In this thesis, I (1) provide an overview of what is needed to develop online neuropsychological tests, and (2) evaluate the ACS. In short, our results indicate adequate validity and reliability for the vast majority of the ACS measures and confirm that it is feasible to assess cognitive functioning with self-administered online tests. Reference data is available for Dutch adult populations, and data for American populations will follow. This makes the ACS one of the first self-administered neuropsychological test batteries with thoroughly studied psychometric properties, potentially facilitating efficient gathering of (large-scale) cognitive data in the near future.