

that would require additional hardware solutions (e.g., dwell time). By making these tasks and their processing pipelines available, the NKI-RS2 can facilitate the democratization of DCA and DCA analysis to a broader range of researchers and clinicians.

**Categories:** Teleneuropsychology/ Technology

**Keyword 1:** assessment

**Keyword 2:** cognitive processing

**Keyword 3:** aging (normal)

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### **Poster Symposium: Digital Neuropsychology in Perspective: Are we 'Clinically' there yet?**

#### **Chair**

Lucia Crivelli  
Fleni, Buenos Aires, Argentina

#### **Discussant**

Preeti Sunderaraman  
Boston University School of Medicine, Boston, USA

#### **Summary Abstract:**

Traditionally, neuropsychology has focused on assessing aspects of the brain and behavior using in-person, paper-and-pencil tests. There was a heavy emphasis on the standardization of test procedures and use of psychometrically sound norms to enable precise clinical evaluations and diagnosis. In the past few decades, the advent of digital technology has led to an increased focus on teleneuropsychology, which consists of conducting evaluations remotely. The coronavirus (COVID) pandemic propelled teleneuropsychology to new heights as it became increasingly recognized that cognitive evaluations conducted via technology can be both a feasible and practical approach to understanding the brain. However, with this realization, it also became apparent that teleneuropsychology tests and procedures need to be updated to keep pace with the contextual

changes. In keeping with this need the current symposium includes four abstracts covering a range of topics relevant to improve our understanding of the future of teleneuropsychology and its emergent clinical applications. The first abstract focuses on providing the audience with a scoping review of the literature about the current state of teleneuropsychology following the COVID pandemic. The second abstract focuses on providing evidence for the feasibility of conducting cognitive assessments remotely along with providing construct validity for the tasks. The third abstract discusses a rapid approach to test development, piloting, translation to clinical use, and adaptation for other languages and cultures using a unique platform. Finally, the last abstract focuses on improving our understanding of a Hybrid Neuropsychology model that integrates various digital tools for neuropsychological use that is being implemented in a clinical setting.

**Keyword 1:** psychometrics

**Keyword 2:** neuropsychological assessment

**Keyword 3:** teleneuropsychology

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### **97 Looking in the Webcam Reflection: A Scoping Review of Videoconferencing-Based Teleneuropsychological Assessment Since the Start of the COVID-19 Pandemic**

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**Objective:** Following the start of the SARS-COV-2 (COVID-19) pandemic there was a rapid

uptake in teleneuropsychology (TeleNP). Many clinicians and researchers used videoconferencing technologies (e.g., Zoom®) to conduct remote neuropsychological assessments. Prior reviews (e.g., Marra et al., 2020) have indicated promise for the use of videoconference-based approaches to cognitive assessment under certain circumstances, though arguably nobody foresaw the widespread use of teleNP during the pandemic. Given the rapid expansion in the teleNP literature in the past couple of years, in this scoping review we specifically discuss research updates made during the COVID-19 pandemic pertaining to teleNP assessment of adults conducted via videoconferencing and their potential clinical applications.

**Participants and Methods:** Google Scholar and PubMed were used to search for peer-reviewed original research articles published between January 1, 2020 (i.e., the approximate beginning of the COVID-19 pandemic) and August 1, 2022. Broad search terms were used pertaining to teleNP, remote cognitive assessment, videoconferencing, and neuropsychological assessment, resulting in 16 articles.

**Results:** Though most of the included studies were based in the United States (n=5), there was international representation across studies (Chile=1; United Kingdom=1; Australia=2; New Zealand=1; France=2; Greece=1; Japan=2, Singapore=1). All of the identified articles examined TeleNP-related research questions using cognitive tests administered via videoconferencing that have been previously studied in-person to varying degrees. Several of the studies focused on psychometric characterization (i.e., reliability and validity) of the examined tests when delivered via videoconferencing, whereas others focused on demonstrating the relative equivalence of neuropsychological scores obtained via videoconferencing versus in-person evaluations.

**Conclusions:** Formal psychometric studies of traditional in-person neuropsychological tests delivered via videoconferencing since the start of the COVID-19 pandemic suggest that this remote modality of assessment is generally reliable and valid. Moreover, multiple recent studies have demonstrated relative equivalence of neuropsychological scores obtained via videoconferencing versus neuropsychological test scores obtained in-person. When considered alongside teleNP research conducted prior to the COVID-19 pandemic (e.g.

Cullum et al., 2014), recent studies on videoconference-based neuropsychological assessment indicate that videoconferencing may not necessarily be a complete substitute for an in-person comprehensive evaluation given the inherent limitations of the procedure. However, teleNP via videoconferencing may be a promising tool in the neuropsychologist's toolbox because it can help reduce common barriers to in-person neuropsychological assessment (e.g., travel time to clinics). Additional research on videoconferencing-based cognitive assessment is needed, especially in low-and-middle income countries (LMIC) and diverse populations where there may be more economic barriers to remote neuropsychological assessment relative to more economically-developed countries. Notably it is possible that research from LMIC may have been missed through the screening processes used in this review (e.g., inclusion of articles written in English).

**Categories:** Teleneuropsychology/ Technology

**Keyword 1:** teleneuropsychology

**Keyword 2:** psychometrics

**Keyword 3:** technology

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## 98 Remote App-Based Assessment of Memory and Executive Functioning in Aging and Pre-Clinical Alzheimer's Disease

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**Objective:** Mobile, valid, and engaging cognitive assessments are essential for detecting and tracking change in research participants and patients at risk for Alzheimer's Disease and Related Dementias (ADRDs). This pilot study aims to determine the feasibility and performance of app-based memory and executive functioning tasks included in the mobile cognitive app performance platform