

performances to a demographically matched sample of 20 Greek Australians with a diagnosis of AD on four visuoconstructional drawing tests: Greek cross, four-pointed star, intersecting pentagons, and the Necker Cube.

Results: While healthy participants tended to outperform the AD group on most copy tasks, high fail rates within the healthy sample were observed for the intersecting pentagons and Necker cube (78% and 73% fail rates respectively) when using established clinical cut-off scores. High rates of curved angle, omission, distorted relation between elements, spatial disorganization and three-dimensional design errors were found across the four-pointed star, intersecting pentagons, and the Necker cube in both healthy participants and those with AD. Exploratory receiver operating characteristic curve analysis revealed that, with perhaps the exception of the Greek cross, meaningful sensitivity and specificity could not be reached for the four-pointed star, intersecting pentagons, and Necker cube.

Conclusions: Cognitively healthy immigrants with low education appear to be at a disadvantage when completing visuoconstructional drawing tests, as their performance may be misinterpreted as indicating cognitive impairment. Future research is needed to identify alternative approaches to assess visuoconstructional ability in low education older cohorts.

Categories: Cross Cultural Neuropsychology/
Clinical Cultural Neuroscience

Keyword 1: cross-cultural issues

Keyword 2: visuoconstruction

Keyword 3: demographic effects on test performance

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4 Second-Language Neuropsychology: A Pragmatic Strategy for Reaching the Next Billion People

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Objective: The world's 8 billion people speak about 7000 languages; 3.2 billion of those people natively speak the top 10 languages. Currently neuropsychology is moderately well-developed in 6 of the top 10 languages, serving roughly 2.5 billion. Developing robust neuropsychology in all 7000 languages to serve everyone equitably in their native language seems impractical within the next few decades. However, 1-2 billion people speak a major language as their second language so a pragmatic strategy may be to develop an alternative approach of second-language neuropsychology (SLN) to serve clients who speak rare languages natively but widely-diffused languages as their second language. This strategy involves adapting all levels of neuropsychological services to the second language user.

Participants and Methods: Intended participants are those who speak a language of limited (e.g., <1 million speakers) diffusion as their first language and a language of wider diffusion (historically-colonial languages such as English, Russian, Mandarin, or Arabic; regional trade languages such as Swahili or Lingala; or nationalized languages such as Indonesian or Tagalog) as their second or more language. Intended participants are those with Basic Interpersonal Communication Skills (BICS) in their second language, but not necessarily Cognitive and Academic Language Proficiency (CALP).

SLN will adapt current neuropsychology techniques in the following domains:

1. Oral language: interview, feedback, treatment, and communication among professionals;
2. Detailed language use evaluation;
3. testing and norms;
4. written materials: reports, client education materials, treatment materials, professional education materials, etc.

The language style for such communication will use standard versions of such traditional or national languages, as commonly taught as a second language. It will use basic vocabulary, simple grammatical structures, and broadly-understood cultural referents. It will minimize grammatical complexity, slang, regionalisms, figures of speech, and metaphor. Materials will be available in the specified language both for those who are literate and for those with inadequate literacy. The development of such

language style will require both written materials and training of neuropsychologists and allies. Once core SLN materials are developed, these may be further localized for specific communities to contribute to acceptance and effectiveness. These general strategies will need modification to the specifics of each major language, writing system, and population. This will be particularly true for testing language functioning itself, a particular challenge for the SLN strategy. The SLN strategy will require empirical verification of its viability in each major language and population. Some may perceive SLN as neo-colonialist and culturally insensitive; this may be mitigated in part through diversifying the neuropsychology workforce, community-based research, piloting, focus groups, and localization of materials.

Results: Because this is a proposal and not yet a research project, prototype neuropsychological screening protocols for English-as-a-Second-Language and Spanish-as-a-Second-Language will be presented as examples.

Conclusions: Cultural and linguistic diversity present major challenges to providing equitable neuropsychological services to the world's population. Current neuropsychology resources are least accessible to major populations that may be most in need. The SLN strategy is not perfect or universal but may reach the next 1-2 billion underserved population

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Keyword 1: cross-cultural issues

Keyword 2: language: second/foreign

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Symposium 10: Information Processing Speed: Applications to Cognitive Rehabilitation after Multiple Sclerosis, Stroke, and Long COVID

1:45 - 3:15pm
Friday, 3rd February, 2023
Town & Country Ballroom C

Chair

Gitendra Uswatte
The University of Alabama at Birmingham,
Birmingham, USA

Summary Abstract:

Objective. Slowed information processing is a common feature of several neurological disorders, including stroke, multiple sclerosis (MS), traumatic brain injury, and some manifestations of long COVID. These disorders affect and disable large numbers of adults. Slowed information processing is important to address because this basic cognitive capacity underlies several critical cognitive functions, including working memory and other aspects of executive function. K. Ball's laboratory has developed an intervention for improving information processing speed, known as Speed of Processing Training (SOPT), which has robust evidence of preventing cognitive decline in older adults without frank neuropathology. Application of SOPT to individuals with neurological disorders, however, has received little study. This symposium will feature discussion of the development and testing in older adults of SOPT by its founder Ball followed by presentation of trials of the first applications of SOPT to rehabilitation of cognitive impairment after MS (J. DeLuca), stroke (E. Taub), and long COVID (G. Uswatte). Notably, the studies presented by Taub and Uswatte feature SOPT in combination with a package of behavior change strategies designed to transfer gains from the treatment setting to everyday life. These strategies were adapted from the "Transfer Package" that the laboratory of Taub and Uswatte developed to enhance the real-world effects of physical rehabilitation for adults with stroke and which has evidence of producing structural remodeling of the brain.

Methods, Results, and Conclusions. Ball will describe the basic, vision science findings that underlie SOPT. Then, she will share results from a multi-site, randomized controlled trial (RCT; N = 2832) showing that, compared to a no-contact control group and a group that received memory training, speed of processing training significantly slows cognitive decline in older adults. Strikingly, 10-year and longer follow-up indicate that this training prevents motor vehicle accidents and the development of dementia. DeLuca will present data from a RCT (N = 84) in adults with MS showing that persistent improvements in information processing speed