

eISSN: 1469-7661; ISSN 1355-6177

# JINS

Journal of the International Neuropsychological Society



CAMBRIDGE  
UNIVERSITY PRESS

**Editor-in-Chief**

John L. Woodard, Wayne State University, USA

**Associate Editors**

Jennie Ponsford, Monash University & Monash-Epworth Rehabilitation Research Centre, Australia

Lin Sørensen, University of Bergen, Norway

Radek Ptak, University Hospitals Geneva, Switzerland

Kevin Duff, Oregon Health Sciences University, USA

Michael Thomas, Colorado State University, USA

Gert Geurtsen, Academic Medical Center & Amsterdam UMC, Netherlands

**Past Editors**

Igor Grant, 1994-2004

Kathleen Y. Haaland, 2004-2014

Stephen M. Rao, 2014-2023

**Consulting Editors**

Peter A. Arnett, Pennsylvania State University, USA

Steinunn Adólfssdóttir, University of Bergen, Norway

Vicki Anderson, Murdoch Children's Research Institute, Australia

Lee Ashendorf, VA Central Western Massachusetts & University of Massachusetts, USA

Bradley N. Axelrod, John D Dingell DVAMC Detroit Michigan, USA

Philippe Azouvi, University of Versailles Saint Quentin and Raymond Poincare hospital, Garches, France

Ida Sue Baron, Independent Private Practice, Potomac, MD & Fairfax, VA, USA

Russell M. Bauer, University of Florida & Malcolm Randall Veterans' Affairs Medical Center, USA

Aaron Bonner-Jackson, Cleveland Clinic, USA

Adam M. Brickman, Taub Institute for Research, Columbia University, USA

Adam R. Cassidy, Mayo Clinic-Rochester, USA

Giovanni A. Carlesimo, University of Rome Tor Vergata & IRCCS S. Lucia Foundation, Italy

Maud Champagne-Lavau, CNRS UMR 7309, Aix-Marseille University, France

Gordon Chelune, University of Utah, USA

Derin Cobia, Brigham Young University, USA

Heather M. Conklin, St. Jude Children's Research Hospital, USA

Alice Cronin-Golomb, Boston University, USA

John C. Darlymple-Alford, University of Canterbury, New Zealand, New Zealand Brain Research Institute, Christchurch, New Zealand

Ana Daugherty, Wayne State University, USA

John DeLuca, Kessler Foundation, USA

Jacobus Donders, Mary Free Bed Rehabilitation Hospital, USA

Vonetta M. Dotson, Georgia State University, USA

Alysa E. Doyle, Massachusetts General Hospital / Harvard Medical School, USA

Annelien A. Duits, Radboud and Maastricht University Medical Center, The Netherlands

Philip S. Fastenau, Case Western Reserve Univ. School of Medicine & University Hospitals Cleveland Medical Center, USA

Deborah A. Fein, University of Connecticut, USA

Sanne Franzen, Erasmus MC University Medical Center, The Netherlands

Brandon Gavett, University of California Davis, USA

Stella G. Giakoumaki, University of Crete, Greece

Igor Grant, University of California, San Diego, USA

John Gunstad, Kent State University, USA

Kathleen Y. Haaland, New Mexico VA Healthcare System & University of New Mexico, USA

Thomas A. Hammeke, Milwaukee VA Medical Center & Medical College of Wisconsin, USA

Dustin B. Hammers, Indiana University School of Medicine, USA

Bernard J. Hanseeuw, Université catholique de Louvain, Belgium Harvard Medical School, USA

Nathan Hantke, Oregon Health & Science University, USA

Deborah L. Harrington, VA San Diego Healthcare System & University of California, San Diego, USA

Philip D. Harvey, University of Miami Miller School of Medicine/ Miami VA Healthcare System, USA

Bruce P. Hermann, University of Wisconsin School of Medicine and Public Health, USA  
Hana Horakova, Charles University, Czech Republic  
Alexandru D. Iordan, University of Michigan, USA  
Lisa A. Jacobson, Kennedy Krieger Institute, Johns Hopkins University School of Medicine, USA  
Brian C. Kavanagh, E. P. Bradley Hospital/Alpert Medical School of Brown University, USA  
Roy P.C. Kessels, Radboud University, Nijmegen, The Netherlands  
Tricia Z. King, Georgia State University, USA  
Andrew M. Kiselica, University of Missouri, USA  
Janneke Koerts, Univrsity of Groningen, The Netherlands  
Renée Lajiness-O'Neill, Eastern MIchigan University and University of Michigan, USA  
Bonnie E. Levin, University of Miami Miller School of Medicine, USA  
Kathryn E. Lewandowski, McLean Hospital / Harvard Medical School, USA  
Spencer W. Liebel, University of Utah, USA  
Marianne Løvstad, Sunnaas Rehabilitation Hospital, Norway  
Pamela May-Weeks, University of Nebraska Medical Center, USA  
Harry Miller, University of British Columbia, Canada  
Cynthia A. Munro, Johns Hopkins School of Medicine, USA  
Christopher M. Nguyen, The Ohio State University College of Medicine, USA  
Kristy A. Nielson, Marquette University & Medical College of Wisconsin, USA

Natalia Ojeda, Universidad de Deusto, Spain  
Barton W. Palmer, University of California San Diego & Veterans Affairs San Diego Healthcare System, USA  
Annalise Rahman-Filipiak, University of Michigan Medical School, USA  
Stephen Rao, Cleveland Clinic, USA  
Lisa J. Rapport, Wayne State University, USA  
Marit Ruitenberg, Leiden University, the Netherlands  
Sydney Y. Schaefer, Arizona State University, USA  
Maureen Schmitter-Edgecombe, Washington State University, USA  
Carlo Semenza, University of Padova, Italy  
Maria Semkovska, University of Southern Denmark, Denmark  
J. Carson Smith, University of Maryland, USA  
Jacoba M. Spikman, University of Groningen, University Medical Center Groningen, The Netherlands  
Gershon Spitz, Monash-Epworth Rehabilitation Research Centre, Monash University, Australia  
Mary Beth Spitznagel, Kent State University, USA  
Mathew Staios, Monash University, Australia  
Yana Suchy, University of Utah, USA  
Alexander I. Tröster, Barrow Neurological Institute, USA  
Mieke Verfaellie, Boston University, USA  
Frederick W. Unverzagt, Indiana University School of Medicine, USA  
Seth Warschausky, University of Michigan, USA  
Sara L. Weisenbach, McLean Hospital, Harvard Medical School, USA  
Michael W. Williams, University of Houston, USA  
T. Andrew Zabel, Kennedy Kreiger Institute, USA  
Laura B. Zahodne, University of Michigan, USA

## Editorial Assistant

Tracy Ronan, Cleveland Clinic, USA

Information about editors and editorial board members correct as of 1st January 2022. For the latest information please see <https://www.cambridge.org/core/journals/journal-of-the-international-neuropsychological-society/information/editorial-board>

## Aims & Scope

JINS is the official journal of the International Neuropsychological Society, an organization of over 4,700 international members from a variety of disciplines. Our editorial board is comprised of internationally known experts with a broad range of interests. JINS publishes empirically-based articles covering all areas of neuropsychology and the interface of neuropsychology with other areas, such as cognitive neuroscience. Theoretically driven work that has clinical implications is of particular interest.

## The International Neuropsychological Society

The Journal of the International Neuropsychological Society is an official publication of The International Neuropsychological Society. Members of the Society automatically receive the Journal of the International Neuropsychological Society as part of their annual membership dues. For further information on membership, please visit the INS website, <http://www.the-ins.org>.

© International Neuropsychological Society.

Published by Cambridge University Press.



CAMBRIDGE  
UNIVERSITY PRESS



## RESEARCH ARTICLES

Alzheimer disease biomarkers are associated with decline in subjective memory, attention, and spatial navigation ability in clinically normal adults <i>Taylor F. Levine, Steven J. Dessenberger, Samantha L. Allison, Denise Head and the Alzheimer's Disease Neuroimaging Initiative</i>	313
Improved intraindividual variability in cognitive performance following cognitive and exercise training in older adults <i>Nárlon C. Boa Sorte Silva, Lisanne F. ten Brinke, Allison A. M. Bielak, Todd C. Handy and Teresa Liu-Ambrose</i>	328
Utility of the INECO Frontal Screening and the Frontal Assessment Battery in detecting executive dysfunction in early-onset cognitive impairment and dementia <i>Anna-Leena Heikkinen, Veera Tikkanen, Tuomo Hänninen, Christer Hublin, Anne M. Koivisto, Toni T. Saari, Anne M. Remes, Teemu I. Paajanen and Johanna Krüger</i>	339
Six elements test vs D-KEFS: what does "Ecological Validity" tell us? <i>Yana Suchy, Michelle Gereau Mora, Stacey Lipio Brothers and Libby A. DesRuisseaux</i>	350
Effects of facial biofeedback on hypomimia, emotion recognition, and affect in Parkinson's disease <i>Sarah Roßkopf, Theresa Friederike Wechsler, Stefanie Tucha and Andreas Mühlberger</i>	360
Perception of cognitive change by individuals with Parkinson's disease or essential tremor seeking deep brain stimulation: Utility of the cognitive change index <i>Katie Rodriguez, Rachel N. Schade, Francesca V. Lopez, Lauren E. Kenney, Adrianna M. Ratajska, Joshua Gertler and Dawn Bowers</i>	370
Predicting neuropsychological late effects in pediatric brain tumor survivors using the Neurological Predictor Scale and the Pediatric Neuro-Oncology Rating of Treatment Intensity <i>Alannah R. Srsich, Mark D. McCurdy, Peter M. Fantozzi and Matthew C. Hocking</i>	380
Mayo normative studies: regression-based normative data for ages 30-91 years with a focus on the Boston Naming Test, Trail Making Test and Category Fluency <i>Aimee J. Karstens, Teresa J. Christianson, Emily S. Lundt, Mary M. Machulda, Michelle M. Mielke, Julie A. Fields, Walter K. Kremers, Jonathan Graff-Radford, Prashanthi Vemuri, Clifford R. Jack Jr., David S. Knopman, Ronald C. Petersen and Nikki H. Stricker</i>	389
Robust reference group normative data for neuropsychological tests accounting for primary language use in Asian American older adults <i>Arunima Kapoor, Jean K. Ho, Jung Yun Jang and Daniel A. Nation</i>	402
Importance of validity testing in psychiatric assessment: evidence from a sample of multimorbid post-9/11 veterans <i>Sahra Kim, Alyssa Currao, Emma Brown, William P. Milberg and Catherine B. Fortier</i>	410