

equal loading, and equal intercept hypotheses could be adequate for only the 4-factor model. **Conclusions:** The variability of factor structures in the BPSD literature appears, at least partially, explained by sampling variability among cognitive stages and dementia syndromes. The best models in the literature appear to have good fit in non-demented individuals and, among those who have dementia, in those with an AD syndrome. Only Sayegh & Knight's 4-factor model had adequate (albeit, not optimal) fit among those with all-cause dementia and, more specifically, among those with a behavioral-type dementia syndrome. These findings inform BPSD theory and practical implementation of NPI-Q subscales.

Categories:

Assessment/Psychometrics/Methods (Adult)

Keyword 1: demographic effects on test performance

Keyword 2: dementia - Alzheimer's disease

Keyword 3: psychometrics

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43 Comparison of Latent Structures for the Neuropsychiatric Inventory Questionnaire (NPI-Q)

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Objective: Existing research has demonstrated that neuropsychiatric/behavioral-psychological symptoms of dementia (BPSD) frequently contribute to worse prognosis in patients with neurodegenerative conditions (e.g., increased functional dependence, worse quality of life, greater caregiver burden, faster disease progression). BPSD are most commonly measured via the Neuropsychiatric Inventory (NPI), or its briefer, informant-rated questionnaire (NPI-Q). Despite the NPI-Q's common use in research and practice, there is disarray in the literature concerning the NPI-Q's

latent structure and reliability, possibly related to differences in methods between studies. Also, hierarchical factor models have not been considered, even though such models are gaining favor in the psychopathology literature. Therefore, we aimed to compare different factor structures from the current literature using confirmatory factor analyses (CFAs) to help determine the best latent model of the NPI-Q.

Participants and Methods: This sample included 20,500 individuals (57% female; 80% White, 12% Black, 8% Hispanic), with a mean age of 71 ($SD = 10.41$) and 15 average years of education ($SD = 3.43$). Individuals were included if they had completed an NPI-Q during their first visit at one of 33 Alzheimer Disease Research Centers reporting to the National Alzheimer Coordinating Center (NACC). All CFA and reliability analyses were performed with *lavaan* and *semTools* R packages, using a diagonally weighted least squares (DWLS) estimator. Eight single-level models using full or modified versions of the NPI-Q were compared, and the top three were later tested in bifactor form.

Results: CFAs revealed all factor models of the full NPI-Q demonstrated goodness of fit across multiple indices ($SRMR = 0.039-0.052$, $RMSEA = 0.025-0.029$, $CFI = 0.973-0.983$, $TLI = 0.967-0.977$). Modified forms of the NPI-Q also demonstrated goodness of fit across multiple indices ($SRMR = 0.025-0.052$, $RMSEA = 0.018-0.031$, $CFI = 0.976-0.993$, $TLI = 0.968-0.989$). Top factor models later tested in bifactor form all demonstrated consistently stronger goodness of fit regardless of whether they were a full form ($SRMR = 0.023-0.035$, $RMSEA = 0.015-0.02$, $CFI = 0.992-0.995$, $TLI = 0.985-0.991$) or a modified form ($SRMR = 0.023-0.042$, $RMSEA = 0.015-0.024$, $CFI = 0.985-0.995$, $TLI = 0.977-0.992$). Sifarikas and colleagues' (2018) 3-factor model demonstrated the best fit among the full-form models, whereas Sayegh and Knight's (2014) 4-factor model had the best fit among all single-level models, as well as among the bifactor models.

Conclusions: Although all factor models had adequate goodness of fit, the Sayegh & Knight 4-factor model had the strongest fit among both single-level and bifactor models. Furthermore, all bifactor models had consistently stronger fit than single-level models, suggesting that BPSD are best theoretically explained by a hierarchical, non-nested framework of general and specific contributors to symptoms. These findings also inform consistent use of NPI-Q subscales.

Categories:

Assessment/Psychometrics/Methods (Adult)

Keyword 1: neuropsychological assessment**Keyword 2:** neuropsychiatry**Keyword 3:** psychometrics**Correspondence:** Nicholas R. Amitrano, M.A.1,2 1. Wheaton College, 2. Rush University
niko.amitrano@my.wheaton.edu**44 Cognitive Intraindividual Variability as a Predictor of Functional Outcomes in a Sample of Precariously Housed Individuals**Michelle J Blumberg¹, Anna Petersson², Paul W Jones², Allen E Thornton², William G Honer³, Tari Buchanan³, Kristina M Gicas¹¹York University, Toronto, Ontario, Canada.²Simon Fraser University, Burnaby, British Columbia, Canada. ³University of British Columbia, Vancouver, British Columbia, Canada

Objective: Precariously housed individuals are exposed to multiple adverse factors negatively impacting neurocognitive functioning. Additionally, this population is subjected to poor life outcomes, such as impaired psychosocial functioning. Neurocognitive functioning plays an important role in psychosocial functioning and may be especially critical for precariously housed individuals who face numerous barriers in their daily lives. However, few studies have explicitly examined the cognitive determinants of functional outcomes in this population. Cognitive intraindividual variability (IIV) involves the study of within-person differences in neurocognitive functioning and has been used as marker of frontal system pathology. Increased IIV has been associated with worse cognitive performance, cognitive decline, and poorer everyday functioning. Hence, IIV may add to the predictive utility of commonly used neuropsychological measures and may serve as an emergent predictor of poor outcomes in at-risk populations. The objective of the current study was to examine IIV as a unique index of the neurocognitive contributions to functional outcomes within a large sample of precariously housed individuals. It was hypothesized that greater IIV would be associated with poorer current (i.e., baseline) and long-term (i.e., up to 12 years) psychosocial functioning.

Participants and Methods: Four hundred and thirty-seven adults were recruited from single-room occupancy hotels located in the Downtown Eastside of Vancouver, Canada ($M_{age} = 44$ years, 78% male) between November 2008 and November 2021. Baseline neurocognitive functioning was assessed at study enrolment. Scores from the Social and Occupational Functioning Assessment Scale (SOFAS), the Role Functioning Scale (RFS), the physical component score (PCS) and the mental component score (MCS) of the 36-Item Short Form Survey Instrument were obtained at participants' baseline assessments and at their last available follow-up assessment to represent baseline and long-term psychosocial functioning, respectively. Using an established formula, an index of IIV was derived using a battery of standardized tests that broadly assessed verbal learning and memory, sustained attention, mental flexibility, and cognitive control.

A series of multiple linear regressions were conducted to predict baseline and long-term social and role functioning (average across SOFAS and RFS scores), and PCS and MCS scores from IIV. In each of the models, we also included common predictors of functioning, including a global cognitive composite score, age, and years of education.

Results: The IIV index and the global composite score did not explain a significant proportion of the variance in baseline and long-term social and role functioning ($p > .05$). However, IIV was a significant predictor of baseline ($B = -3.84$, $p = .021$) and long-term ($B = -3.58$, $p = .037$) PCS scores, but not MCS scores ($p > .05$). The global composite score did not predict baseline or long-term PCS scores.

Conclusions: IIV significantly predicted baseline and long-term physical functioning, but not mental functioning or social and role functioning, suggesting that IIV may be a sensitive marker for limitations in everyday functioning due to physical health problems in precariously housed individuals. Critically, the present study is the first to show that IIV may be a useful index for predicting poor long-term health-related outcomes in this population compared to traditional neuropsychological measures.

Categories:

Assessment/Psychometrics/Methods (Adult)

Keyword 1: assessment**Keyword 2:** psychometrics