

The Research Digest



From the Column Editor:

This issue of the NYSPA Notebook features the third installment of The Research Digest column, aimed at translating research into practice, thereby hopefully at least partially bridging the often-cited gap between research and practice.

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Practice Implications of Sociocultural Factors in Neurocognitive Assessment of Racial/Ethnic Minority Clients

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As the U.S. becomes ever more diverse, psychologists are being increasingly called upon to provide assessment and treatment services for racially/ethnically minority (REM) populations. Evolving research in clinical neuropsychology highlights the challenges of the assessment of neurocognitive functioning in such populations and points to the importance of understanding the role of sociocultural factors in such assessments. This research also has important practice implications for psychologists conducting such assessments.

Extensive research (e.g., Norman et al., 2000; Taylor & Heaton, 2001) indicates that the use of traditional cognitive (i.e., the Wechsler scales) and neuropsychology measures yields disproportionate rates of false-positive errors for cognitive impairment among healthy (i.e., “normal”) African American and Latino populations compared to non-Hispanic whites. This finding is particularly notable when reported from data collected on carefully evaluated, neurologically normal samples (Heaton et al., 2006). Thus, although the sensitivity (i.e., the proportion of people correctly identified as having cognitive impairment) of our cognitive and neuropsychological measures is good across populations, they lack specificity (i.e., the proportion of people correctly identified as not having cognitive impairment) for

REM populations. This lack of specificity puts psychologists at a great disadvantage with respect to providing accurate and valid assessments and diagnoses for their REM clients.

One remedy for this serious problem has been the emergence of normative data that provide demographic corrections for certain REM and linguistic groups (e.g., Artiola i Fortuni, 1999; Heaton et al., 2004; Mungas et al., 2004). Although race/ethnicity-based corrections significantly improve the diagnostic utility of our measures for particular REM groups (primarily African Americans and Spanish-speaking Latinas/os), these norms do not address other problems with these measures. First, relying exclusively on racial/ethnic normative corrections fails to take into account the role of sociocultural factors in explaining performance differences between racial/ethnic groups (Bialystok, 2007; Gasquione, Croyle, Cavazos-Gonzalez, & Sandoval, 2007) and thus may inadvertently leave unexplained racial/ethnic differences in test performance open to harmful misinterpretation (Manly, 2005; Rivera Mindt et al., 2010). Second, this approach negates the need to rigorously investigate the construct validity of these measures within and across groups. In doing so, this keeps our field marred in entrenched models of neurocognitive functioning that may have little empirical support or

relevance for REM populations.

Increasing the diagnostic specificity of neuropsychological assessment instruments is critical to improving the standard of neuropsychological care for ethnic minorities. Given the heterogeneity of Hispanic/Latino, Asian, and other groups, obtaining normative samples representative of these groups has proven implausible and does little to help us understand factors underlying between-group differences in test performance. Thus, research aimed at understanding the relationship of sociocultural factors to neuropsychological test performance may provide a viable alternative for improving the specificity of current neuropsychological tests with racial/ethnic minority and other similarly disenfranchised/underserved groups (e.g., rural populations, other immigrant populations).

Although sociocultural research in neuropsychology is still an emerging area, the available research points to the need to thoughtfully consider sociocultural factors in the selection and interpretation of cognitive test performance. First, a relatively robust literature suggests that lower education and quality of education (based on single-word reading tests such as the Wide Range Achievement Test--Reading subtest) are associated with poorer cognitive test performance in both English- and non-English speaking populations (e.g., Byrd, Jacobs,

Hilton, Stern, & Manly, 2005; de Ronchi et al., 2002). Second, language is a major factor involved in test performance. As expected, extensive research shows that individuals perform best in their dominant (primary) language; however, research also indicates that being bilingual is associated with significant changes at the neuro-anatomic level and on cognitive test performance. Specifically, current research indicates the existence of bilingual disadvantages on verbal tasks (i.e., naming and fluency measures) and more subtle bilingual advantages on some measures of executive functioning, specifically cognitive control (Rivera Mindt et al., 2008). Third, acculturation (i.e., the process by which individuals are influenced and changed through exposure to another culture) is another factor associated with test performance. Specifically, greater acculturation to majority (i.e., U.S.) culture among African Americans, Asian Americans, and Latinas/o has been significantly associated with better test performance in a number of cognitive domains (i.e., executive function, attention/working memory, verbal fluency, learning, memory, and processing speed; Boone et al., 2007; Coffey, Marmol, Schock, & Adams, 2005). Fourth and finally, relatively recent research indicates that lower socioeconomic status is also associated with poorer cognitive test performance (e.g., Schwartz et al., 2004).

My own work is dedicated to understanding the role of sociocultural factors at the intersection of neurological disease and health disparities and improving the standard of care and outcomes for undeserved and vulnerable populations. The research (Rivera Mindt et al., 2008) of myself and my collaborators indicates that quality of education completely atten-

uates ethnic minority (Latina/o vs. non-Hispanic white) between-group performance differences in global neuropsychological functioning and the domains of learning and attention/working memory. Our more recent research (Arentoft et al., in press) also supports prior work on the important association between acculturation and test performance.

In summary, psychologists are being increasingly called upon to evaluate and serve individuals from diverse backgrounds. The literature on the role of sociocultural factors in neuropsychological test performance clearly indicates that clinicians and researchers alike should take these factors into account when evaluating racial/ethnic minority individuals and likely others from nontraditional and underserved backgrounds (e.g., rural populations, immigrants who may not count as “racial/ethnic” minority based on current classifications). Psychologists may increase cultural competence for conducting evaluations with racial/ethnic minority clients by seeking specialty training, continuing education, and mentorship opportunities and through involvement in professional organizations. Although current guidelines (see Rivera Mindt et al., 2010) for conducting neuropsychological evaluations with ethnic minorities are limited and in need of revision, they should serve as an indispensable resource for neuropsychologists who work with ethnic minority clients.

Recommended Reading

Llorente, A. M. (2008). *Principles of neuropsychological assessment with Hispanics: Theoretical foundations and clinical practice*. New York: Springer Science Business Media, LLC.

Manly, J. J., & Jacobs, D. (2002). Future directions in neuropsychologi-

cal assessment with African Americans. In R. Ferraro (Ed.), *Minority and cross-cultural aspects of neuropsychological assessment* (pp. 79-96). Lisse, the Netherlands. Swets & Zeitlinger.

Reynolds, C. R., Fletcher-Janzen, E., & Strickland, T. L. (Eds.). (2000). *Handbook of cross-cultural neuropsychology*. Dordrecht, the Netherlands: Kluwer Academic Publishers.

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