The Luria-Nebraska Neuropsychological Battery

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Jan Hamrickson

Universities of North Carolina-Wilmington

Antonio B. Puente

University of North Carolina-Wilmington
Clinical neuropsychology has emerged from increasing demands to assess and rehabilitate brain damaged individuals (Lézak, 1987). This demand has developed not only a unique discipline, which draws simultaneously from clinical and biopsychology, but has led to the development of organizations and journals. For example, recently the American Psychological Association approved the formation of Division 40, Clinical Neuropsychology. Several journals, such as The Journal of Clinical Neuropsychology and Clinical Neuropsychology, have been founded with the hopes of encouraging and disseminating research in the field.

The traditional role of the clinical neuropsychologist has been limited to evaluation of the neurally-injured individual, with assessment tools such as the Bender-Gestalt. Recently, however, this role has been expanded in various ways. Satz and Fletcher (1981) note that clinical neuropsychology is now concerned with issues such as nondamaged, and rehabilitation of the brain-injured individual. In turn, the Bender-Gestalt, however, has been expanded to include the traditional role of the clinical neuropsychologist has been limited to assessment techniques.

Although such instruments as the Bender-Gestalt continue to receive widespread use, Bigler and Pfeffer (1981) have suggested that such tools provide, at best, limited information about brain function. Instead, longer and more involved instruments purport to measure a variety of and are more highly recommended. One of these instruments which has been developed is the Luria-Nebraska Neuropsychological Battery (LNNB) by Golden, Hammeke, and Purisch, 1978.
The Battery is based on the theoretical premises set forth by the late noted Russian neuropsychologist, A.R. Luria (see Luria, 1973). Luria purported that higher order functions (such as language) originate from functional systems involving all portions of the brain. Thus, each contribute in development of a whole. Nevertheless, the unorthodox and unsystematic brain assessment techniques result in serious psychometric limitations. A.L. Christensen (1974) provided the field with the first attempt at standardizing Luria's techniques, (see Figure 1) According to Charles Golden from the University of Nebraska Psychiatric Institute, this attempt still fell short of basic requirements for a psychometrically sound neuropsychological instrument due to the lack of reliability and validity and the absence of a psychometrically sound neuropsychological short of basic requirements. For a psychometrically sound neuropsychological instrument, the University of Nebraska Psychological Institute, this attempt still fell short. Golden (1974) provided the field with the first attempt at standardization. Assessment techniques result in serious psychometric limitations. A.T. Strong criticisms have been levied against Golden's research and the subsequent development of the Luria-Nebraska. Adams (1980) indicated that pro-

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age and education adjustments.
Independent efforts by others, nevertheless, appear to support Golden's original statement. By Golden, who certainly is not an unbiased participant/observer of the instrument, one cannot help but to note that these studies have been conducted to show that the LNNB is useful in the localization of the deficit as well. Golden and colleagues (Lewis, Golden, Moses, Osman, Purisch, & Hammeke, 1980) more recently reported that the instrument successfully differentiated between normal non-brain-injured schizophrenia patients and non-brain-injured non-schizophrenic normals from long term non-brain-injured schizophrenia patients at Nebraska. More recently, Golden claims that the LNNB can simultaneously discriminate between normal controls and brain-injured non-schizophrenic individuals. Although Golden has provided various reactions to these criticisms (e.g., Golden, 1980), the strongest support for the efficacy of this instrument is derived from Golden's laboratory at Nebraska. To illustrate, Golden claims that the LNNB can significantly discriminate brain-injured non-schizophrenics from long term non-brain-injured schizophrenics (Purisch, Golden, & Hammeke, 1982).

Although Golden has provided various reactions to these criticisms (e.g., Golden, 1980), the strongest support for the efficacy of this instrument is derived from Golden's laboratory at Nebraska. The instrument's ability to examine functional differences in neural damage is clear, and the instrument's ability to discriminate between normal controls and brain-injured non-schizophrenics suggests that the instrument is useful in the localization of neural damage. However, the instrument's ability to discriminate between normal controls and brain-injured non-schizophrenics (Purisch, Golden, & Hammeke, 1982) suggests that the instrument is useful in the localization of neural damage. However, the instrument's ability to discriminate between normal controls and brain-injured non-schizophrenics (Purisch, Golden, & Hammeke, 1982) suggests that the instrument is useful in the localization of neural damage.

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the battery is capable of significantly discriminating schizophrenics with and without brain damage. As the next figure indicates, there was a significant difference between groups for all 14 scales. Freeland and Puente (in press) found the LNNB more sensitive than the traditional WAIS (Wechsler Adult Intelligence Scale) in detecting brain damage in this population. In a more important study, Malloy and Webster (1982) found that the Luria-Nebraska was effective in detection of soft-neurological signs, (i.e., difficult to detect, minimal brain damage).

More importantly than these criticisms could be the crisis brewing in the field of clinical neuropsychology. If one considers the status of individuals, such as Adams (editor for the Journal of Clinical Neuropsychology), as well as the number and gravity of the criticisms of the LNNB, it is clear that a schism within the field is developing. While the discrepancies pointed out by Adams and others stand by themselves, the heuristic value of Goldenberg's research must also be given notice. Could issues such as increased efficiency (in terms of time and range of clinical capabilities) as well as increased financial remunerations be responsible for catapulting Goldenberg's battery into historical prominence? If so, could Kuhn's (1962) concept of scientific revolutions be applicable in this case? While we tend to think so, we also believe that this revolution is based on pragmatic and financial rather than scientific interests.
References


Freeland, J., & Puente, A.E. (in press)


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Where you can be reached during Spring Vacation: (919) 791-4390 ext. 2766
UNCW, Wilmington, NC 28403
Campus: Jan Hendrickson
Department of Psychology
UNCW, Wilmington, NC 28403
Author’s address and telephone number (please include zip code and area code):

College or University affiliation: University of North Carolina at Wilmington
PPT
A Crisis in Clinical Neuropsychology?
The Luria-Nebraska Neuropsychological Battery:

Author’s name: Jan Hendrickson & Antonio E. Puente

Send this form to: R. O. Huber, Department of Psychology, Meredith College.