The Clinical in Clinical Neuropsychology

Antonio E. Puente

University of North Carolina at Wilmington

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Introduction

First and foremost, thank you for being here at such an early hour on the first day of this most important conference. This is indeed an important date in the history of psychology and we, as representatives of the National Academy of Neuropsychology, are honored to be part of this occasion. Personally, I am humbled by the opportunity to present my ideas along with such an illustrious colleagues.

My assigned task is to provide my views about the clinical aspects of clinical neuropsychology. To that end, I will provide a brief introduction to the topic followed by an attempt to define or describe clinical neuropsychology. This attempt will focus on ~~attempting to~~ determine who clinical neuropsychologists are, what do they do, and finally how do they do it. This last issue will the primary ~~issue~~ focus of this presentation.

Historical Background

Since this is an historical conference, this presentation will be placed in an historical context. Let me begin with the antecedents of the history of psychology.

As the story goes, Zeus, the God of Gods, had amorous tendencies and a less than amorous wife. Led astray by the passions of mortals, he had an affair with a human which led to the birth of a daughter. This offspring was as beautiful and passionate as her mother and as intelligent as her father; she had the best of the body and of the mind. Her name was Psyche. When Zeus's wife discovered the existence of Psyche, she was intent on destroying her. Zeus, wanting to protect this special creation, enlisted Logos, the God of Logic to help resolve the problem. When the two were combined the end result was Psyche-Logos (today this has been changed to psychology). Hence, it should come as no surprise that a main enterprise of psychology today is the application of logical means to resolve suffering. ~~Of course~~ However and more recently, much of what psychologists do today can be traced to Lightner Witmer as well. 100 years ago, he attempted to resolve problems of articulation that had emerged in a child that had sustained a head injury. Clinical neuropsychology is following in that tradition.

Defining Clinical Neuropsychology

Historical Perspectives

Continuing the historical trend of this presentation, about a dozen psychologists met 15 years ago here at APA and also in Washington to discuss common interests. They were all members of the International Neuropsychological Society and had decided that the multidisciplinary nature of that group did not serve their interests as professional psychologists. They decided to from the National Academy of Neuropsychologists and, if I recall correctly, Aaron Smith was elected its first President. In 1979 the group decided to meet for the first time and did so at one of the Sheraton Hotels in Orlando. About 50 people heard several workshop presenters including Charlie Golden who introduced the new Luria-Nebraska. About a dozen poster presenters, including myself, stood adjacent to ta table (since not poster boards were available) and discussed our research in extremely crowded conditions. All of the research focused on assessment issues. NAN has come a long way since then. The organization now has well over 1,600 members, the last conference drew close to 650 registrants, and the organizers even provided poster boards. The variety of clinical and research presentations was truly surprising.

Who Are We?

One way to determine who clinical neuropychologists are is to to examine the membership roster of NAN. A cursory review of the membership would lead one to conclude that well over 90% of its membership work in practice settings with less than 10% devoting full time to more academic pursuits. Less than 5% have primary academic affiliations with a department of psychology in a college of arts and sciences. Thus, it would appear that clinical neuropsychologists are indeed out there providing services.

Determining, however, much more than this is harder. While there are requirements for NAN membership, it would be difficult to arrive exactly at a profile of a typical NAN member in terms of such things as training, etc.

Another way to determine who clinical neuropsychologists are is to examine Division 40s definition (1989);

A clinical neuropsychologist is a professional psychologist who applies principles of assessment and intervention based upon the scientific study of human behavior as it relates to normal and bnormal functioning of the central nervous system.

Two important aspects of this definition should be highlighted; the fact that this is a professional pursuit and that it is based on scientific principles.

Later in this definition, it is recommended that competency be demonstrated, preferably by a test of "one's peers". Presumably then, those who have attained board status could be considered more of a clinical neuropsychologist than those that have not. I have

argued previously (1992) that competency, however, has yet to be adequately defined. For example, there are at least two boards that credential clinical neuropsychologists and, hence, no wide based acceptance of competency has been reached.

Another question that arises, at least in my mind, is "can a non-neuropsychologist provide neuropsychological services". I understand that psychiatrists are now using the screening form of the Luria-Nebraska Neuropsychological Battery in their practices. Most in this room would find that practice highly questionable. However, what about clinical, school, or counseling psychologists with some exposure to clinical neuropsychology. Should our colleagues be administering neuropsychological instruments or be providing treatment to the neurologically impaired patient?

Unfortunately, there appears to me a fine line between acknowledging competent practioners and allowing inexperienced professionals to practice neuropsychology. How and where that line is drawn not only remains to be drawn but its placement will have far reaching implications to the profession.

What We Do

Numerous surveys have been published over the last decade that provide a view of what clinical neuropsychologists are doing. Hartlage and Telzrow (1980), Hartlage, Chelune, and Tucker (1981), McCaffrey and Isaac (1984), and Serterny, Dean, Gray, and Hartlage (1986) provided the first glimpses into professional neuroipsychology. More recently, Guilmette, Faust, Hart and Arkes (1990) and Putnam and DeLuca (1990) have expanded initial findings of others. Most clinical neuropsychologists still focus their practice on assessment and most assessment tools appear to be either the Halstead-Reitan, the Luria-Nebraska or a variation using the flexible approach. Most work with neurological patients and an increasing segment of their population is forensic.

Recently an unpublished survey came to my attention. Wilcokson and Georgeulakis completed a survey of all types of clinical assessment practices for the Department of Defense (DOD). Their findings are interesting and have an important bearing for clinical neuropsychology. For example, the average time for an assessment to be completed was 3.44 hours. However, the most frequent assessment was that of personality which took 1.97 hours and 1.43 visits to the psychologist. In contrast, the average neuropsychological evaluation took 10.10 hours and 4.55 visits. Further, forensic evaluations took approximately 17 hours.

Thus, it would appear that clinical neuropsychologists have defined practices. Surprinsingly, however, those outside the field seem to have less of an understanding. This lack of understanding

is more prevalent with those administering and regulation neuropsychological practice. The Health Care Finance Administration recently provided a relative value work unit of zero for testing. In essence, testing was considered to take no time, effort, nor expertise resulting in no reimbursement.

How We Do It

If clinical neuropsychology were to be compared to other health professions or even clinical psychology, there would be many resemblances. There are many things, however, that clinical neuropsychologists do differently and I would like to focus on these.

Historical Epistemology

If the history of psychology were to be examined, much like Boring did in his classic 1952 text, trends, even cycles, would become evident. Kuhn, among others, have chronicled how disciplines evolve with some becoming scientific. I would like to take the next several minutes to provide my view of how clinical neuropsychology has evolved. Unlike previous efforts, including that of my own (1988), I have chosen today not to focus on the traditional great man approach alone. My primary interest is to focus on trends.

Three Stages

First Stage. I consider the first stage of clinical neuoropsychology to actually precede the discipline itself. In 1863, Broca discovered that the left frontal lobe was involved in language. At the turn of this century Pavlov, often known for his work in classical conditioning, emphasized the importance of the cerebral cortex in complex human behavior. Fifty years later Sperry discovered the role of the two separate hemispheres. This stage focused on understanding the relationship of brain to behavior. In most of these cases, the discovery revolved around observation of clinical cases (e.g., Broca) or the application of a brain lesion to healthy or unhealthy subjects to determine brain function (e.g., Sperry). This stage yielded a wealth of knowledge about brain function and spawned the field of neuroscience.

Second Stage. The second stage began informally with the work of Kurt Goldstein and Shepard Franz here in Washington. They began to study clinical cases as their primary activity. However, Reitan should be credited with launching this second stage. The 1952 publication of the use of clinical psychological instruments to measure brain function shifted the emphasis from simply understanding brain functioning to the psychometric assessment of such. The publication of Golden, Hammeke, and Purisch's Luria-Nebraska in 1979, Kaplan's WAIS-R as a Neuropsychological Instrument in 1991 are highlights of this second stage. This stage has been well chronicled by Lezak's books and most recently by Spreen's contribution. The emphasis was on knowledge of the instrument as a means for understanding disrupted brain function.

Third Stage. The third and final stage goes beyond either the study of the brain or the psychometric assessment of disorder brain function. This stage has evolved from the changing demographics of the population and the emergence of cognitive psychology. In this stage, each subject becomes a single subject design experiment with a host of variables to be understood and manipulated. The publication of Puente and McCaffrey 's (1992) Handbook of Clinical neuropsychological Assessment, which incidentally is being released today, marks this a paradigm shift. In this book contributors address the role of constitutional and demographic variables (perinatal, childhood, adulthood, aging, sex, gender, handedness, lateralization, socioeducational, and bilingualism);

psychopathalogical variables (anxiety, depression, schizophrenic, pseudoneurological, malingering); biological and environmental factors (pathology of the peripheral nervous system, cardiovascular and somatic disorders, neurosurgical interventions, psychoactive drugs, and toxicology) are considered. The focus is to place the organism in the context of their life experience.

Summary

Clinical neuropsychology has indeed evolved, much in the same fashion as has psychology. For all practical purposes, the field still pursues the problems that Lightner Witmer had considered important. What has changed most drastically, and will continue doing so, is how clinical neuropsychologists pursue the investigation of brain dysfunction.

I suggest that the field has reached a fair degree of consensus in some areas, yet not others. Further, I believe that the field has experienced three different stages of development. The third and current stage is only beginning to evolve. This stage embraces the diversity of the American population along with the robustness of cognitive psychology. While I anticipate this stage to provide a foundation for clinical activities during the rest of this decade, continued evolution through self-assessment, one of the most complicated of higher order functions, will undoubtedly push the field towards new horizons- presumably to be chronicled by future NAN Presidents 100 years from now.