

Archival Description of Clinical Neuropsychology

Clinical neuropsychology is a specialty that applies principles of assessment and intervention based upon the scientific study of human behavior as it relates to normal and abnormal functioning of the central nervous system. The specialty is dedicated to enhancing the understanding of brain-behavior relationships and the application of such knowledge to human problems.

Parameters To Define Professional Practice in Clinical Neuropsychology

Clinical neuropsychology has evolved as a specialized area of knowledge and practice with extensive intra- as well as interdisciplinary foundations. Considered from the perspective of the sociology of the professions, the specialty is characterized by activities in a number of scientific and professional domains. The foundation for the practice of clinical neuropsychology encompasses roles that address psychological or behavioral manifestations of neurological, neuropathological, pathophysiological, and neurochemical changes in brain disease and the full range of aberrations in the central nervous system that may arise during development.

The evolution of this mission has followed the characteristic course of scientifically-based professional role functioning, insofar as the foundations in knowledge and practice have been derived not only from the discipline of psychology, but also from the various related disciplines within the traditional professions of medicine, education, and law.

Three primary developmental domains have provided the basis for this area of specialized knowledge and practice: basic experimental research in physiological and cognitive psychology; the development of quantitative and qualitative neuropsychological principles and procedures for clinical practice; and the syndromal analysis of the behavioral consequences of central nervous system lesions. The growth of the specialty has been influenced, as well, by the introduction of formalized procedures for accrediting educational programs and individual competencies.

a. populations:

Adult neurological populations include cerebrovascular accidents, neoplasms, infectious and inflammatory diseases, degenerative diseases, head trauma, demyelinating disease and various forms of dementing illness. Psychiatric populations of primary interest include somatoform disorders of pseudoneurologic character; depression as a component of an/or to be differentiated from dementia; psychosis as a pseudodementing disorder and as a differential diagnostic entity to be distinguished from behavioral disturbances in selected neurological populations such as partial complex seizure disorders.

General medical and surgical populations include older individuals who may have some neuropsychological deficits associated with an early dementing illness that may complicate medical or surgical management; candidates for kidney transplant or dialysis; candidates for cardiac surgery, including transplants; and chronic pain patients with a neurological versus functional basis.

Children with learning disabilities of developmental or organic basis are referred from pediatricians, pediatric neurologists, and the schools, in addition to a marked expansion of neuropsychological evaluation and treatment of all types of pediatric neurological patients. Growing referral populations include the chemically dependent (especially polydrug users and alcoholics), AIDS dementia cases, and victims of environmental toxin exposures.

b. problems (psychological, biological, and social):

Referrals for clinical neuropsychological assessment typically include, but are not limited to, the following: differential diagnoses between psychogenic and neurogenic syndromes; differential diagnoses between two or more suspected etiologies of cerebral dysfunction; evaluation of spared and impaired functions secondary to a cerebral cortical or subcortical event; establishment of neurobehavioral baseline measures for monitoring progressive cerebral disease or recovery; comparison of pre- and postpharmacologic, surgical, or behavioral interventions; and assessment of higher cortical functions for the formulation of rehabilitation strategies.

Intervention problems include design of procedures for utilizing available functions to compensate for impaired functions; retraining of the impaired function to a higher level of adaptive effectiveness; and environmental (ecological) manipulation to enhance adaptive effectiveness.

Clinical neuropsychologists function primarily on referral from health, education, and legal professionals; agencies and institutions; and in response to needs of other service systems (e.g., courts, schools, extended rehabilitation facilities and general care facilities, military installations, and chemical treatment facilities). Primary employment settings are estimated to be almost equally divided between hospital-medical centers, private practice, and a combination of (salaried) hospital or clinic-based employment, and private practice.

c. procedures and technologies:

Clinical neuropsychological services include neuropsychological assessment, cognitive remediation and intervention, agency and institutional consultation, education and counseling for individuals and families, and selected psychotherapies or behavior therapies as appropriate for neurologically involved individuals.

Differentiation of clinical neuropsychology from other psychological specialties is reflected in the distinction between generic competencies and specialized competencies. Generic applied competency requires a foundation in psychological science with a predominantly clinical emphasis, although such training may be obtained through other generic avenues if a clinical internship is included. Over the past few decades, roles of clinical, counseling, and school psychologists have converged so that there is a substantial overlap in generic applied knowledge and competency attained in related programs at the predoctoral and internship levels. Clinical neuropsychology involves the building of specialized competencies upon the generic applied knowledge and competency base obtained in a generic applied predoctoral program of a health-related nature. The generic base for clinical neuropsychology includes the structure and process of interviewing; intellectual, aptitude, interest and personality measurement; selected psychotherapy and counseling interventions; general consultation skills; and a consumer-patient education orientation, including ethics. Building upon such a generic foundation, specialized clinical neuropsychological competence includes effectiveness in comprehensive history taking; identification of neurobehavioral problems/issues to be addressed; application of a wide range of neuropsychological assessment procedures to multiple populations; test construction and validation; remedial and supportive intervention design and implementation; individual and agency consultation; and consumer education/ethics, specifically in a neuropsychological context. Such specialized competency is achieved by means of sets of skills anchored to the above parameters of practice in the settings outlined in a,b, and c above. While there is overlap with the other health-related specialties in terms of generic applied competence, there is the elaboration, extension, and refinement of neurobehavioral applications that involve additional foundations in experimental, cognitive, and physiological psychology as well as in the clinical neurosciences. Such extensions of knowledge and application are obtained by specialty track programs at the predoctoral and internship levels and/or by postdoctoral preparation in a specialized clinical neuropsychology program.