

Forensic Clinical Neuropsychology
As a Paradigm for Clinical Neuropsychological
Assessment: Basic and Emerging Issues

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Introduction

Knowledge regarding how to properly perform a forensic evaluation in clinical neuropsychology has typically been obtained through experience (namely trial and error) and continuing education workshops (e.g., National Academy of Neuropsychology). Clinical practice has substantially changed over the last decade. Comparisons between the early practice surveys (e.g., Hartlage and Telzrow, 1982) and the more recent ones (e.g., Putnam and De Luca, 1990) suggest an ever increasing emphasis on forensic issues. Thus, this volume represents a welcomed addition to a subspecialty lacking in scholarly material.

This chapter will address theoretical and pragmatic issues that confront the forensic neuropsychologist. While the chapter by Barth et al. provides a detailed overview of forensic neuropsychology, the purpose of this chapter is to consider two major issues. First, the basic paradigm for completing a forensic neuropsychological evaluation will be considered. Note that the preceding chapters have addressed one aspect or another of the forensic neuropsychological evaluation processes, but not the entire spectrum of related activities. For example, Long and Collins address the issue of ecological validity while Laing and Fisher and Williams consider the mechanics of a typical evaluation. Two fundamental assumptions are adopted: forensic evaluations should reflect the standards involved in good

clinical evaluations and there are several issues regarding forensic evaluations that shape, and may even limit, neuropsychological knowledge. For instance, an interview confined to a single informant (e.g., plaintiff) may result in a limited knowledge base. Another example involves whether the neuropsychologist sees his/her role as a scientist, a practitioner, a scientist-practitioner, or an advocate.

The second major issue that is addressed in this chapter deals with external (that is to the evaluation) factors that may further effect the limits of neuropsychological knowledge and, in turn, the validity and reliability of expert testimony. If a competent neuropsychological examination is completed, the limits of that evaluation are further shaped by existing neuropsychological knowledge. Regarding neuropsychological knowledge, one example involves individuals of a minority group who are not only more likely to sustain brain injuries (Collins, 1993) but are more likely to be considered as brain-injured because false positives on formal neuropsychological tests are more probable (Puente, 1992). Using Hispanics as an illustration, if client does not know English, the patient's performance on a neuropsychological test may be interpreted as "brain damaged" when in reality the problem reflects acculturation and language limitations. Political and social forces also shape the limits of neuropsychological knowledge, especially as they apply to forensic situations.

Recently, the question of "Who is a neuropsychologist" has been addressed (Puente, 1994). There are some who believe that a specific type of board certification is necessary for clear identification as a neuropsychologist (e.g., Division 40's of the American Psychological Association definition), whereas others suggest a more inclusive interpretation of training and credentialing.

The data and perspectives presented in this chapter are meant to be balanced and fair to the plaintiff as well as to the neuropsychologist and the field. This balance is being attempted as a means to reconcile the dynamic forces in the ever-changing health care arena in such a way to best serve the needs of society, especially the judicial branch of government.

Background

Basic Assumptions

Reviews of the seminal surveys of practice parameters by Putnam and De Luca (1990) suggest that neuropsychological evaluations could be divided into one of two types, clinical and forensic. Their data suggest that forensic evaluations are longer and more comprehensive, presumably because their impact is more obvious, maybe even more important.

While one can certainly agree that the impact of a forensic evaluation is more obvious, one would be hard pressed to adequately argue that they are more important (cf.,

McCaffrey, Williams, Fisher and Laing, 1993). Indeed, dichotomizing evaluations into clinical (less comprehensive and important) and forensic (more important and comprehensive) might be interpreted as questionable from an ethical standpoint. One can only assume that, even given the restrictions of modern day reimbursement issues, every patient should be afforded the best quality of care. Forensic evaluations have different purposes and require different skills. The forensic evaluation requires a knowledge of the relevant legal principles.

Growth and Role of Forensic Neuropsychology

Another important issue which needs to be considered is that of the growth of clinical neuropsychology. Charting this growth might provide an indication not only of the critical value of forensic services but may point towards a future where forensic evaluations will not only be used more frequently but with greater weight.

Two neuropsychological organizations have provided significant national forums for professionals in the field. The National Academy of Neuropsychology (founded in 1978) and the Division 40 Clinical Neuropsychology of the American Psychological Association, (founded in 1980) have grown exponentially. For example, in approximately 15 years both groups have grown to between 2,000 and 3,000 members. Particularly gratifying is the increased number of students joining the ranks of neuropsychology. Concomitant with the

growth of these societies has been exceptional convention activities and publications. For example, the National Academy of Neuropsychology in 1994 held its 15th meeting in Orlando which was the site of the first meeting. The original 1978 audience of 40 participants and handful of workshops has grown dramatically to over 1,500 registrants and close to 50 workshops. Of these workshops, several typically address forensic issues. In 1990, a well-attended symposium organized by Puente was held at the American Psychological Association meeting in New Orleans. At that meeting, two well-known neuropsychologist (David Faust and Danny Wedding) pitted their controversial ideas against that of the arguments of Russ Newman (now APA Practice Directorate Executive Officer) and Melvin Schwartz, forensic neuropsychologist. For the first time, an attempt was made to discuss in a scholarly and professional forum the difficult issues facing forensic neuropsychology. Those issues were later published in the journal Neuropsychology Review (Faust, 1991; Wedding, 1991; Newman, 1991) along with insightful comments of Barth and colleagues (Barth, Ryan, & Hawk, 1991). More recent commentaries by Adams and Putnam (1994), Dorward & Posthuma (1993), Guilmette & Giuliano (1991), and McCaffrey and Lynch (1992) have furthered the initial responses to Faust and Wedding.

Current Pitfalls.

An important issue involves the proximate cause of the disorder (Richardson & Adams, 1992). Since experimental designs cannot be employed in the single case study approach of forensic assessment, etiology can only be inferred based on quasi-experimental, correlational, and observational data. Indeed, conclusions in forensic cases are based on careful historical analyses of available pre-morbid history which is then correlated with current clinical and psychometric evidence (e.g., Guilmette & Giuliano, 1991).

In addition to etiology, another problem in forensic neuropsychology is the tendency to focus on neuro-anatomical issue in lieu of behavioral functioning. While such a focus may have been at one point useful in the professional development of neuropsychology (Puente, 1992), this approach is not particularly critical at the field's present juncture. This is due to the rapid advances in neuro-radiology and the ever increasing importance in scientifically based careful analyses of brain function and dysfunction in conjunction with rapid technological development (e.g., MRI). According to Martell (1992), the primary object of a forensic evaluation is not to establish whether a patient has "brain damage" but to establish and explain the "nature, extent, and course" of the brain dysfunction.

Historical Precedents

Neuropsychology has a short but rich history. This is especially the case in forensic neuropsychology where the history is even briefer. Outside commentaries in the literature (see the Hartman, 1991, and Reitan, 1989, dialogues) and the recent book by Dywan and Pirozzolo (1994), little has been published on this topic, especially from a historical perspective. Nevertheless, it should come as no surprise that the first seminal case in the subspecialty can be traced back to 1974 when Reitan testified in a head injury case (Indianapolis Union Railway v. Walker, 1974). Reitan's testimony was not considered admissible because he was not a physician. The case was eventually overturned in the Indiana Court of Appeals because of the usefulness of Dr. Reitan's evaluation.

This scenario was repeated in the mid 1980s when Puente was involved in a head injury case. Edward Horne was struck by a 2,000 pound log that caused significant changes in neuropsychological functioning. After a cursory examination, a neurosurgeon concluded that the patient suffered from no residuals. Eventually Mr. Horne was referred to Puente for a comprehensive neuropsychological evaluation. After approximately 20 hours of assessment, clear changes in behavior were measured; further, these changes appeared to be causally related to his injury. The Industrial Commission of North Carolina ruled that this

evidence was not admissible because Puente was not a physician. After extensive amicus briefs were filed from the North Carolina Psychological Association and the American Psychological Association the North Carolina Court of Appeals reversed the original ruling considering that information about neuro-cognitive changes could be provided by a neuropsychologist (Horne v. Goodson, October 1986). These and related cases were eventually reviewed extensively by Schwartz (1987; 1991), Richardson and Adams (1992), Rothke (1992) and Satz (1988) in the journal The Clinical Neuropsychologist. Perhaps the title of Schwartz' most recent article summarizes the current situation: "Sometimes safe, sometimes out: Umpire gives split decision".

Interest has increased during the last decade on the value of clinical neuropsychology for society. Puente has previously argued that the value of clinical neuropsychology can best be gauged by the acceptance of neuropsychology in the courtroom (Puente, 1990; 1992). One might argue further that the issues in forensic neuropsychology present not only a good barometer of present but also of future acceptance of the field's status within society.

Applications

Criminal Issues

The chapter by Rehkopt and Fisher in this volume provides important and useful information regarding the applicability of neuropsychology in criminal cases. The

admissibility of such data may, however, hinge more on society's acceptance of science in the courtroom than the science itself. Specifically, the average juror may express more interest in issues surrounding societal values than scientific integrity. In other words, clinical neuropsychology should continue to refine its methods and procedures to increase the reliability and validity of its findings. The neuropsychologist will eventually have to present data not only in the context of good science but the data must be integrated into the needs of society. Science outside the context of society will have little value.

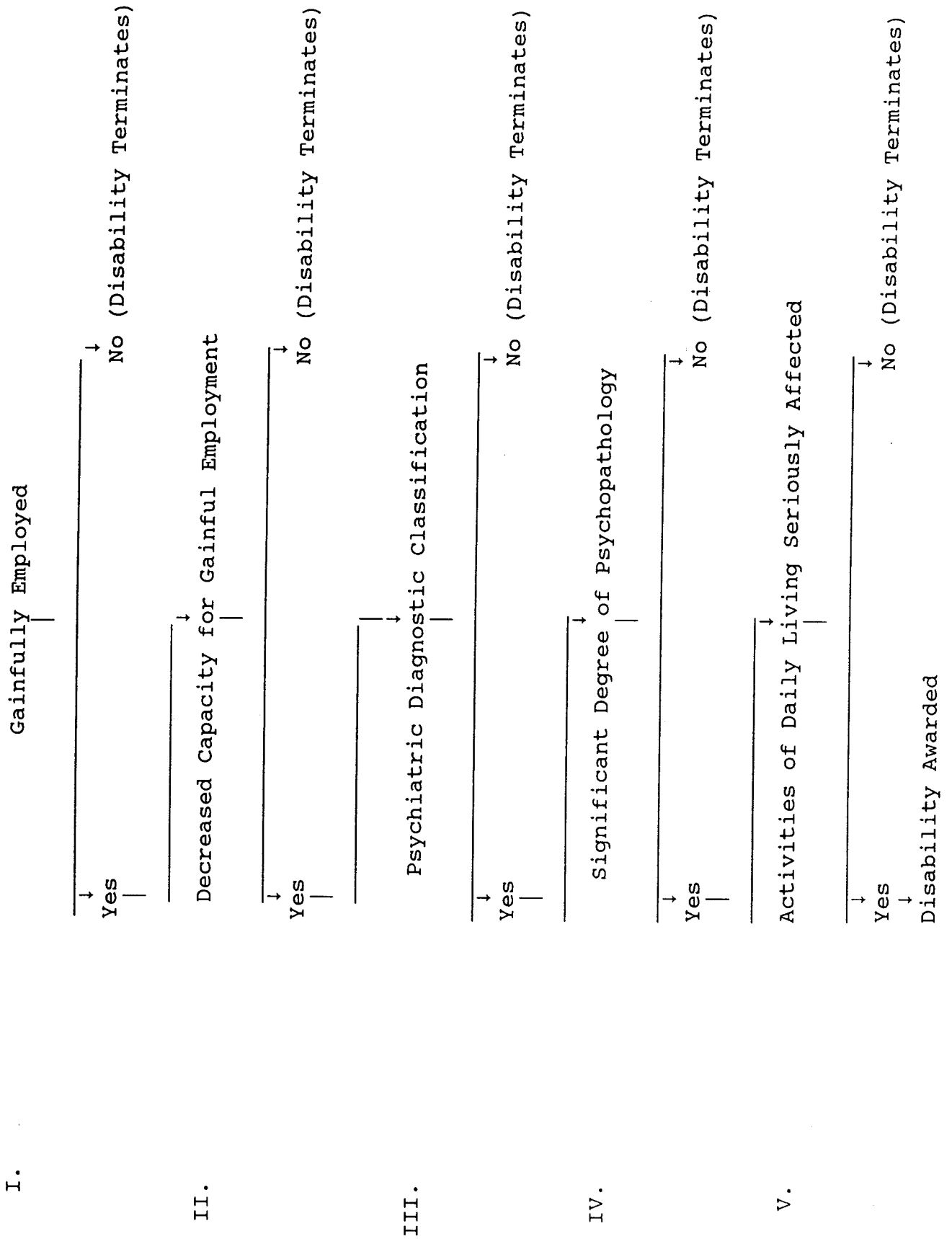
Civil Issues

The chapter by Laing and Fisher regarding the usefulness of neuropsychology for civil cases addresses numerous pragmatic issues. Several concerns should be highlighted, however, as they pertain to emerging problems. Two different applications of clinical neuropsychology will be considered; Social Security and Workers Compensation.

Social Security presents an interesting paradigm for all aspects of forensic neuropsychology. For example, as with other types of civil cases, economic concerns, whether the individual qualifies for benefits and how much he qualifies for, are often at the foundation of neuropsychological evidence. In addition, careful psychometric assessment is tied to determination of functional capacity. Indeed one

without the other is of little value. The ultimate goal, as indicated in Table 1 and as previously outlined by Puente (1988, 1989), is whether neuropsychological deficit has bearing on whether an individual receives benefits. Table 1 contains an overview of the Social Security disability determination process.

Table 1. Paradigm for Understanding Social Security Disability



Workers' Compensation typically poses greater challenges for the clinical neurologist due to the greater demands for information, accuracy and accountability. This may also reflect the increased economic issues. Puente and Gillespie (1993) have previously outlined specific concerns involved in working neuropsychological data into the web of worker's compensation. Etiology becomes a critical issue and the applicability of neuropsychological data to employee capacity is of utmost value. In contrast to Social Security, there is little interest in Worker's Compensation about activities of daily living. Another important issue is that of rating. The bottom line in Workers' Compensation cases is how much has been lost (or preserved) of the worker's capacity to earn a living. Unfortunately, this rating poses serious difficulty for both the neuropsychologist, as well as for the court. In contrast to other types of injuries, there is no clear or easy method to "quantify" loss. For example, in the state of North Carolina the loss of one vertebrae equals 5%. In earlier attempts the American Medical Association (1994) has provided guidelines for making determinations of disability. Table 2 has been developed by Puente as an alternative method for assessing Workers' Compensation disability. This method of assessing compensation takes into account major neuropsychological functions rated according to deviations from normal performance (presumably using psychometric

data). In addition, such variables as rehabilitation potential are also considered. This disability rating is then applied to conventional formulas in order to determine the total amount of financial compensation.

Pre-evaluation

Ethical complaints compiled by the APA do not indicate that forensic neuropsychological evaluations constitute a major source of these complaints. Indeed, except for child custody evaluations, forensic evaluations, are in general, relatively free of ethical violations when compared to other clinical activities (for example, psychotherapy). In addition, there is an increasing number of neuropsychologists whose primary or even sole activity involves conducting forensic evaluations.

The referral source often dictates what type of evaluation and, at times, even the style of the evaluation. Whereas responsiveness to referral sources is obviously important, bending to the demands of the referral source at this point might negatively affect the overall integrity of the evaluation and the profession. Hence, independence and integrity must be maintained in all aspects of the evaluation.

One way to ensure this independence would be to have referral sources sign contracts before initiation of an evaluation. A contract would ensure payment regardless of outcome of the evaluation and of the trial. Contingency payment constitutes ethical impropriety.

As part of the evaluation, extensive records (Williams, 1991) must be obtained as a critical means of establishing a pre-morbid level of functioning and an understanding of injury. Such records would include but not be limited to educational, legal, and medical.

Another issue that is becoming increasingly common is that of dual relationships with a client. Taken in a liberal light, neuropsychologist should avoid providing therapy for individuals whom they have evaluated, if possible; patients should be referred to other professionals. Again, the purpose is to maintain objectivity and independence of information. Of course, at times this may not be possible as in the case of a neuropsychologist practicing in a rural or small town setting.

Evaluation

Due to the importance and demands of forensic evaluations, all parties must be educated to the purpose and procedures of a neuropsychological evaluation. Interviews must be comprehensive and, if possible, involve others such as family members and significant others.

A final comment regarding the evaluation deals with the report itself. It is assumed, first, that all data will be included. Also, while brevity is commendable, the report should be adequately comprehensive.

Questions remain, however, as to the release of the report, data, and actual test protocols. Review of the recent APA Ethical Guidelines suggests that raw test results should not be released to unqualified persons (i.e., only to licensed psychologists). In contrast, legal requirements often preclude such practices. Tranel (1994) has provided some interesting approaches to resolve the adversarial ethical and legal situations. Some of these include releasing data only to other licensed psychologists.

Post-Evaluation

After the evaluation is complete, the forensic activity rarely ceases. Indeed, it has become increasingly common for second opinions to be obtained by opposing attorneys. Second opinions pose both problems and potential reinforcements for the forensic neuropsychologist, three complications have become common place. First, raw data is often requested. Considering the current ethical guidelines of the APA and the published testing standards, it would appear unethical to release those records to unauthorized and untrained parties (Tranel, 1994). Second, increasing pressures have been mounted by opposing sides to verify the validity of the evaluation. In some recent instances videotaping or the actual presence of an observing third party during the evaluation has occurred. Such practices would similarly appear to be in conflict with the ethical guidelines and testing standards of APA. Further, the tests were validated without such obtrusions and to bring in other parties would question the validity of the revised procedures. The laws in many states do permit third parties to be present during neuropsychological evaluations. The legal and ethical issues surrounding this matter has been outlined in the literature (see McCaffrey, Fisher, Gold, & Lynch in press). A third issue involves the use of forensic experts that either do not see or never see clients (Adams & Putnam, 1994). Again, such practices result in potentially useful but still somewhat limited information.

Evaluations need to be explained and sometimes defended. This usually occurs in the context of either depositions or court appearances. Civil cases tend to be resolved prior to trial. Thus, depositions, where permitted, take on a particularly important role. A critical problem in this situation is the focus on an "all or none" opinion. It is important to recall that neuropsychology is a science based on probability.

Future

This chapter has attempted to highlight specific issues in forensic clinical neuropsychology and to address emerging issues. Neurosurgeons, neurologists, physicians, and for that matter psychiatrists, still offer the courts a limited perspective of the actual residual capacity of the patient's neurocognitive abilities. No profession is better suited to provide this information than clinical neuropsychology.

Several questions remain. Will clinical neuropsychology continue to establish a strong scientific base and continue to endorse an unbiased and independent approach to data gathering? Will the profession be able to establish guidelines and definitions of what constitutes a neuropsychological evaluation and who is a clinical neuropsychologist? The importance of empirical and fair guidelines for defining procedures and professionals must be completed soon.

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Table 2

Proposed Table for Determination of Neuropsychological Disability Using Test, Clinical and Historical Data.

Functional Category	Percentage of Impairment/Standard Deviation			
	0-25% / 0-1 _w	26 - 50% / 1-2 _w	51 - 75% / 2-3 _w	75 - 100% / Over3 _w
Orientation/Attention	Mild Deficit	Moderate Deficit	Marked Deficit	Severe Deficit
Intellectual Functions	Mild Deficit	Moderate Deficit	Marked Deficit	Severe Deficit
Executive Functions	Mild Deficit	Moderate Deficit	Marked Deficit	Severe Deficit
Memory	Mild Deficit	Moderate Deficit	Marked Deficit	Severe Deficit
Communications	Mild Deficit	Moderate Deficit	Marked Deficit	Severe Deficit
Visual Motor	Mild Deficit	Moderate Deficit	Marked Deficit	Severe Deficit
Sensory	Mild Deficit	Moderate Deficit	Marked Deficit	Severe Deficit
Affect	Mild Deficit	Moderate Deficit	Marked Deficit	Severe Deficit
Behavior	Mild Deficit	Moderate Deficit	Marked Deficit	Severe Deficit
Activities of	Some Limitations	Regular Assistance	Major Assistance	Totally dependent
Daily Living		needed	needed	on others
Rehabilitation Potential	Excellent	Good	Guarded	Poor