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SPECIALIZATION IN NEUROPSYCHOLOGY: FROM CLINICAL NECESSITY TO STRATEGIC CONVENIENCE

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Specialization within Psychology is a broadly acknowledged need, given the increasing demand for higher-quality and more effective clinical attention. However, Spain's Health Professions Regulation Act has overlooked important clinical-healthcare specialties, such as Neuropsychology. This article argues strongly, from an epistemological point of view, and based on the search for excellence in healthcare provided by Psychology, in favour of acknowledging Neuropsychology as a key healthcare specialization. It also argues that Neuropsychology, as an independent healthcare specialization, should collaborate closely with other healthcare fields within Psychology and Neuroscience. Furthermore, the article also postulates that such specialization in healthcare provision will ultimately benefit the strategic role of Psychology within the healthcare framework, and hence, in society.
Keywords: *Neuropsychology, specialization, LOPS, Clinical Psychology.*

La especialización dentro del ámbito de la Psicología es una necesidad ampliamente reconocida, debido a la creciente demanda de servicios que gocen de una progresiva mayor calidad y eficacia. Sin embargo, la Ley de Ordenación de Profesiones Sanitarias ha obviado el reconocimiento sanitario a importantes especialidades de marcado carácter clínico-asistencial, como es el caso de la Neuropsicología. El artículo justifica desde una base epistemológica, y desde la búsqueda de la excelencia en la calidad de los servicios sanitarios dispensados desde la Psicología, la necesidad del reconocimiento de la especialización en Neuropsicología Clínica, como una disciplina asistencial independiente, aunque íntimamente relacionada con otras especialidades clínicas, de la Psicología y de otras Neurociencias. Así mismo, plantea que este camino de diferenciación asistencial beneficia, en última instancia, la posición estratégica de la Psicología dentro de las profesiones sanitarias, y por tanto, dentro de la propia sociedad.
Palabras clave: *Neuropsicología, especialización, LOPS, Psicología clínica.*

THE NEED FOR SPECIALIZATION IN PSYCHOLOGY

The evolution of the concept of Psychology, since its baptism as "the science of the soul", has been as eventful as the history of modern man itself. The primary study object of Psychology has been successively adjusted to the caprices and vicissitudes of the quest for the essential nature of the human being. The vocation of Psychology has always been to study and explain this essence, so that it has turned its attention progressively, and often simultaneously, to the soul, the mind, thought, behaviour, the subconscious, personality, the emotions, relational and social aspects, and so on – and all of them in both their normalized and altered versions. Indeed, it could be said that the curiosity to explain abnormality has often led us to glimpse normality. At the same time, the methodology of Psychology has attempted to adapt itself to dictates from outside over what is and what is not scientific knowledge, with a degree of success that depends on the criteria of the judge. Such epistemological indecision has meant that, historically, interest in an object of study has implied ignoring, and often indeed scorning, the knowledge generated in previous times. One of the results of this internal struggle was the rejection – whose painful and harmful effects are still felt – of postulates outside the confines of the prevailing psychological current. Curiously, it would seem that, as far as Psychology is concerned, internal criticism has been more extensive than consensus, with the result that, among both other professionals and the general public, there is some degree of discredit, and even of distrust.

Fortunately, also as a result of a lack of dogmatism with regard to its study object and its methodology, Psychology has accumulated a notable body of knowledge and techniques of proven scientific validity and clinical efficacy. Indeed, it could be said that we psychologists ourselves have matured as professionals and scientists, and have learned to integrate the knowledge acquired

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throughout the history of the discipline, regardless of its varied origins, accepting its worth and applying it according to the specific demands. Ideally, the psychologist – the perfect psychologist –would have extensive knowledge of all models, postulates, techniques and hypotheses, so as to apply on each occasion the combination with the greatest probability of success. But acquiring such extensive theoretical knowledge, as well as handling to an acceptable degree all the available techniques in line with the theoretical postulates, would certainly require more than one professional life. In response to such obvious limitations the need emerged, more and more strongly in the second half of the 20th century, to specialize in a particular field of knowledge within Psychology. Thus, today we speak of different psychologies: Developmental Psychology, the Psychology of Learning, Psychopathology, Neuropsychology, Health Psychology, Psycho-oncology, the Psychology of Personality, Educational Psychology, Work and Organizational Psychology, Social or Community Psychology, Sports Psychology, etc., etc. A danger inherent in specialization is that of ignoring or minimizing the other fields. At the level of education and training, it has been attempted to circumvent this danger through the mandatory acquisition of knowledge shared by all psychologists, which ostensibly covers a minimal notion of each area of specialization. This education is provided within the Psychology degree course. It is subsequently, at postgraduate level, that specialization takes place. However, the problems arise because of the discrepancy between this specialist training and the official recognition of the specialization for the practising Psychologist. Thus, the Spanish state recognizes as a specialization only Clinical Psychology, through a training programme based on the internship system (*Psicólogo Interno Residente*, PIR). Although this represents progress with regard to the previous situation, since it situates the PIR on an equal footing with the other health professions, it has been somewhat disconcerting for psychologists ourselves: What does the recognition of the Clinical Psychologist specialization actually involve? Is it indeed the only way of exercising the profession in the clinical context? Where does this leave the rest of the specializations or areas of knowledge recognized within Psychology? Certain sectors have resolved the issue through a reductionist strategy that has little to do with the structure of knowledge and expertise or with social demands: Psychology only qualifies as a health profession if practised by a PIR specialist. This has been the official position of legislators and of those responsible for the organization of the health system in our country. However, can this be reconciled with the reality of Psychology, with the demands of society and with the interests of Psychology professionals ourselves?

Official recognition of a specialization need not mean a renunciation of the remaining specializations, or their forced inclusion within that which has received the blessing of legislators. But has the decision to recognize only Clinical Psychology – a purely political decision – changed the epistemological panorama of Psychology? If we continue to understand Psychology as such a broad field of knowledge that specialization in a specific field is necessary, it seems contradictory, and enormously harmful to the discipline itself, to reduce its recognized professional remit to Psychopathology. Because, in reality, the education and training programme of the Clinical Psychology specialization via the PIR is a specialization in Psychopathology. Such confusion between Psychology and one of its areas of knowledge, Psychopathology, may be understandable in the general public, and even in the politicians responsible for health legislation. However, it is extremely disadvantageous to the discipline that such confusion is shared by psychologists ourselves, since what is ultimately involved is the total reductionism of Psychology to Psychopathology. Unfortunately, such a situation is all too reminiscent of past times in which the dominant school at a given historical moment rejected the validity of all postulates which failed to coincide with its own. If history has any use at all, it is to help us learn from past errors.

The other areas of knowledge or specialized fields liable to be affected by this social movement toward reductionism are those with a clear clinical and health vocation. This is the case of Neuropsychology, which in recent years has been attracting more and more interest among other health professionals, generating a growing demand for specialists in the field. However, for Neuropsychology professionals to work in the public health service they are required to possess the specialist title of Clinical Psychologist. This is a clear example of a discrepancy between the health legislation and the epistemological reality of Psychology. How first of all we, as psychologists, and subsequently society, resolve this issue will go a long way to determining the role of Psychology as a health profession.

NEUROPSYCHOLOGY: SPECIFICITY OF ITS METHODOLOGY AND THEORETICAL ASSUMPTIONS

Defining the role of Neuropsychology, both within Psychology and in relation to other neurosciences, requires first defining Neuropsychology itself and delimiting its current field of intervention. Neuropsychology has traditionally been defined, in a broad sense, as the science of the relations between brain and behaviour. In this definition, when we speak of the brain we are referring to the entire CNS, and from a neurobiological perspective: as an organ subject to the laws of physics, and therefore susceptible to functional alteration through morphological-biochemical changes. In turn, the reference in this definition to behaviour should be understood in a broad sense, with special emphasis on cognitive processes, but also on observable, primarily target-oriented, behaviour, and on the emotions.

Ultimately, **the great challenge for Neuropsychology, and the focuses of its research efforts, is knowledge of the nature and functioning of cognitive processes, their inter-relation, and their relationship to behaviour, emotions and, in general, the functioning of human beings in their environment.** It is the quest for such knowledge that characterizes the practice of Neuropsychology, and not the use, often indiscriminate, of its methodology without theoretical support. It is relatively common that discipline and methodology become confused, in such a way that the application of neuropsychological tests is confused with the use of a neuropsychological approach; the object of neuropsychological assessment is misunderstood; and the clumsy application of part of the instrumentation is mistaken for true neuropsychological rehabilitation. Neuropsychology seeks not to develop tests and exercises for assessing or training – with greater or lesser sophistication, precision or even innovation – the different cognitive processes; rather it is to provide professionals with a body of theory, based on the scientific evidence, on how these processes take place, on their possible alterations and, where possible, on what action can be taken toward rehabilitation or the compensation of deficits.

Just as administering a personality test or a projective test does not make a person a Clinical Psychologist or a Psychiatrist; examining a CAT or MRI or knowing how to identify certain neurological signs does not make a neurologist; knowing how to use a stethoscope does not make a doctor; and using a computer does not make an IT engineer, in the same way, Neuropsychologists are not the people who use neuropsychological tests, but rather those who employ them for a specific purpose based on a series of working hypotheses, derived in turn from a theoretical frame of reference in relation to how cognitive processes inter-relate and function and – depending on the pathology in question – to the expected cognitive performance profile. That is, what characterizes the Neuropsychology professional is not the use of specific instrumentation, but rather the knowledge of brain-behaviour relations in the context of a possible pathology, or of normal functioning. The consequences of using the instruments of Neuropsychology without the appropriate educational and training background and the relevant expertise will inevitably alter the conclusions of the assessment, thus perverting the diagnostic process, to the detriment of potential treatment and of the patient's general prognosis. The relative frequency of this error is due partly to the assumption of a neuropsychological test's labelling as a diagnostic criterion. Just because a test claims to measure memory does not mean that it measures memory alone. The error lies in considering that there is linear correspondence between tests and cognitive function, in such a way that if a person scores lower than the reference group on a memory test, the only plausible conclusion is that he or she has a memory deficit. But the expert in Neuropsychology must consider the possible hypotheses that would explain poor performance in the memory test, taking into account not only possible memory deficits but also others, such as alterations of certain cognitive functions that can affect memory, as well as psychopathological processes and other circumstances that may have an influence. Moreover, the expert in Neuropsychology has to know the psychometric properties of tests – including their limitations – and to be able to interpret the results from assessment instruments in accordance with their sensitivity and specificity.

Neuropsychological assessment is a complex process (as assessment in any field so often is), and one of the essential conditions for its proper execution is the possession of sound knowledge about the discipline. Indeed, such assessment is characterized more by the expertise of the assessor than by the sophistication or psychometric adequacy of the tests employed. Luria himself improvised a series of assessment tasks in accordance with the explanatory hypotheses he was generating in the course of his behavioural

observations. It was not until years after his making these observations that a systematized neuropsychological battery was produced. Another pertinent example can be found in current practice in Clinical Neuropsychology in the USA, where in hospitals and clinics with large patient numbers it is very frequent for a technician (not even a psychologist) specializing in administering neuropsychological tests to carry out most of the assessment, but it is the Neuropsychologist who designs the assessment process and draws the appropriate diagnostic conclusions. In sum, the neuropsychological assessment process develops according to an analytical process, comparable to experimental methodology, via the successive elimination of possible alternative hypotheses. Such analysis can only be carried out adequately through the prior possession of a theoretical framework on normal cognitive functioning, as well as a thorough knowledge of all the diagnostic alternatives.

Another common error faced by neuropsychological assessment concerns confusion over its object. The principal goal of assessment is not to determine whether the patient undergoing a neuropsychological test scores above or below a cut-off point indicating the presence or absence of organic alteration. Nor is it to identify the location of the lesion, given that there are currently highly accurate techniques for this, such as those of neuroimaging (CAT, MRI, SPECT, etc.). **The principal goal of neuropsychological assessment is to obtain an explanatory description of the global configuration of the patient's cognitive system, describing impaired areas and intact areas, the inter-relation between them, the global cognitive result, and the functional consequences of the patient's cognitive profile in relation to the demands of their environment.** It is important that as a result of the assessment it is possible to describe the cognitive functioning profile in a global fashion, as well as how it is related to the possible presence of behavioural and emotional disturbances and relationship difficulties, and ultimately to the person's functional independence. In some cases the resulting profile will facilitate a differential diagnosis, in terms of the underlying pathology, as in the case of dementias. But on a great many occasions the description of this profile will actually be the ultimate purpose of the assessment, since the aetiology is already well established, as in the cases of acquired brain injury, multiple sclerosis, brain paralysis, etc.

This confusion between the tools used and the discipline itself is also often found in rehabilitation and in the research context. Neuropsychological rehabilitation is frequently seen by other professionals as a mere training exercise or cognitive stimulation – as some kind of mental gym-work. From this simplistic perspective, the sole task of those carrying out neuropsychological rehabilitation would be to present patients with a series of exercises that they must complete as successfully as possible. Thus, there has recently been growing demand for published material and computer programmes containing such exercises, on the assumption that any person (psychologist or not) can apply them, regardless of their training background. It suffices to know that the patient has a memory problem and that the exercises claim to focus on memory improvement. However, findings about evidence-based neuropsychological rehabilitation continue to highlight the need for the participation of Neuropsychology professionals in multidisciplinary rehabilitation teams (see Halligan & Wade, 2005). Such experts must have knowledge of brain –behaviour relations, of the inter-relations between the different cognitive (sub)processes, and of their relationship with behaviour and emotions, since otherwise they will be unable to carry out an explanatory analysis of the affected and intact (sub)processes, which is essential for guiding rehabilitation. Once again, the least important aspect is the specific rehabilitation exercise, and the most important is where the therapist places the emphasis, and therefore it is essential for the professional, first of all, to have comprehensive theoretical knowledge, and secondly, to have sound mastery of the different neuropsychological rehabilitation techniques. Furthermore, current definitions of neuropsychological rehabilitation (Halligan & Wade, 2005) have rendered obsolete those simplistic approaches involving indiscriminate training of tasks on which the patient has obtained low scores in the assessment, proposing instead a holistic and complex type of intervention, with a view to achieving an improvement not only in the person's cognitive functioning, but also his or her functional adaptation, with particular attention to emotional and personality variables.

The consequences for patients of providing a rehabilitation programme not based on the postulates of Clinical Neuropsychology is that they receive ineffective treatment – despite the proven effectiveness of the neuropsychological rehabilitation techniques now

available – with the resulting implications of healthcare negligence. But what should also not be overlooked are the devastating consequences of this for the perceived efficacy and utility of Psychology: on providing ineffective treatments, the conclusion of other professionals, and in the long-run of society in general, will be that Psychology is ineffective in the treatment of cognitive deficits. Moreover, those responsible for health policy will make a simple mental calculation: in view of the doubtful efficacy of this type of intervention, and bearing in mind that, in any case, what is important is not the professional but the material, they will tend to invest in material, and to take on personnel with low-level qualifications, who are cheaper than psychologists. Such reasoning, however pessimistic and exaggerated it may seem, has already taken place, and it is not uncommon to find this situation in certain institutions, and for it to extend to other areas of Psychology. Regrettably, it is the deliberate failure to give credit among psychologists ourselves that has conveyed to other professionals and society in general the impression that specialist theoretical training is not so relevant.

In sum, there is a clear need for specialization, given the educational and training requirements of the expert, which include specific theoretical content and the mastery of relevant techniques exclusive to Neuropsychology. The recognition of this need, starting from within Psychology itself, will produce a gradual refinement of working methodologies and improved efficacy, leading in turn to effective treatments recognized by other professionals and by society.

NEUROPSYCHOLOGY AS A HEALTH SPECIALIZATION

Given the current state of regulation of the health professions, some may find it tempting to reduce the acknowledgement of a professional activity as health-related to those specified in the current legislation. But once again, both Psychology and the other health professions have a great deal to say on the subject. Our conception of "health" has evolved considerably in recent decades, freeing itself from the exclusivity represented by the presence of a disorder (preferably of an organic nature, and hence objective, measurable and treatable). Concepts such as emotional wellbeing, quality of life and subjective perception have supplanted aspects of the biologicist model according to which the sole target of health resources are organic conditions of known cause. This biologicist approach, akin to a perverted kind of positivism, has failed in part due to its approach of "everything for the patient, but without the patient". That is, the only reliable information was that obtained through the diagnostic tools employed by professionals, of greater or lesser sophistication, with very little input from patients or their specific circumstances. A paradox emerging from this model was that from the same pathology there could derive different degrees of disability or different additional symptoms, and ultimately, different prognoses associated with the heterogeneity of variables in principle unrelated to the healthcare context. Fortunately, conceptions of health have evolved, and now refer not only to the presence or absence of a pathology, but also to its consequences for patients' level of functioning, in relation to themselves, their environment, and their role in society. According to the World Health Organization's model of Functioning, Disability and Health (2001), there is an interaction between, on the one hand, the pathology and the impairment it generates, and on the other, environmental factors (physical and personal) that determine the patient's functional repercussions (activity) and degree of handicap (participation) in relation to his or her context. Thus, the impact of any pathological manifestation should be analyzed on four levels: pathology, impairment, activity (previously referred to as disability) and participation (previously referred to as handicap).

Bearing in mind that Neuropsychology deals with pathology with a marked neurological component, it is not difficult to consider the role of Neuropsychology in accordance with the current conception of health. In all cases the pathology involves an alteration at a neurological level, that is, a structural, biochemical and functional disorder of the brain. Analysis at this level is the usual approach of the medical and biological disciplines. However, on making this analysis at the level of impairment, Neuropsychology makes available for the patient its own working methodology for determining the nature, extent and relationships of the different cognitive deficits, behavioural and emotional disturbances and other psychopathological manifestations – even if it is true that part of this analysis should be carried out in conjunction with other professionals, such as the Clinical Psychologist. But no less important is the contribution of Neuropsychology in the analysis and treatment of the repercussions of such deficits at the level of activity and participation. As stressed above, Neuropsychology does not confine itself to assessing and treating the cognitive deficits, but extends its area of concern to activity and

participation, and this is indeed the ultimate purpose of its intervention. And while it should be underlined that in these areas too there is a need for a multidisciplinary approach, with the participation of other Neuroscience professionals, this does not detract from the exclusive nature and value of the contributions from Neuropsychology.

Finally, caution should be exercised to avoid making the mistake of identifying – in a reductionist way – healthcare with the hospital context. Given the current conception of Health, it is not only resources with the "healthcare" label that strive to palliate health deprivation; social-health and purely social resources also play an enormous role in the promotion of health. Thus, in the case of neurological disorders, Neuropsychology has the potential for action in these three types of resource, given its relevance for impairment, activity and level of participation.

THE RELATIONSHIP BETWEEN NEUROPSYCHOLOGY AND OTHER NEUROSCIENTIFIC DISCIPLINES

Obviously, Neuropsychology is nourished by Psychology, and it is from this frame of reference that specialization should take place. However, and as already explained above, it also requires the acquisition of certain specific knowledge, as is the case of other specialities within Psychology. A part of such specific knowledge is shared with other disciplines in the field of Neurosciences, in addition to Psychology itself. Knowledge coming from the field of Neurology is of special relevance, since Neuropsychology shares with this discipline an interest in the brain and its repercussions on behaviour. However, there are evident distinguishing features between Neuropsychology and Neurology, including Behavioural Neurology. The most crucial of these is the epistemological approach – that is, the perspective from which the study of brain-behaviour relations sets out. Whilst Neurology carries out its analysis, assessment and treatment from a biological perspective, Neuropsychology does so via behaviour, basically through knowledge of cognitive processes. It could be said that for neurologists the object of study is the brain and its biological aspects, so that they sometimes observe behaviour in order to make inferences about the state of the brain. In contrast, the ultimate purpose of Neuropsychology is knowledge about behaviour (cognition, observable behaviour and emotion), and knowledge of the brain's biological variables helps neuropsychologists to formulate hypotheses about impairments of the different cognitive, behavioural and emotional processes. In simple terms, it might be said that the Neurologist looks at behaviour in order to learn about the state of the brain from a biological perspective, while the Neuropsychologist looks at the state of the brain with the aim of predicting or learning about the state of the mental processes that determine cognition, behaviour and emotion. This epistemological difference determines the methodological differences in the assessment, diagnosis and treatment of brain alterations and their consequences. And while some assessment techniques are shared, given the broad availability of neuropsychological tests and of information on biological variables, the differences emerge more clearly with regard to treatment. Neurology intervenes directly on the biological variables of the brain (medication, neurosurgery, electro-stimulation, etc.) in the hope of producing changes in its state that have an effect on behaviour. Neuropsychology, on the other hand, acts directly on behaviour, maintaining the reference of the brain as an organ, but dealing only with cognitive, behavioural and emotional variables. It is possible, even expected, that such intervention will produce functional changes in the brain, but even if these do not occur, the ultimate aim is to achieve the person's maximum possible functional independence in their environment. In sum, the Neuropsychology-Neurology relationship is comparable to that of Clinical Psychology and Psychiatry.

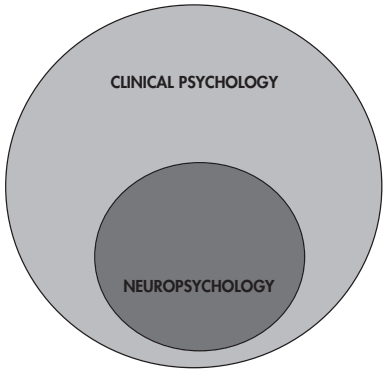
A common feature of the Neurosciences is their interest in the relationships between brain and behaviour, even if they differ with regard to approach, methodology of analysis and working tools. In any case, a superficial distinction can be made between those that set about studying the brain-behaviour (or brain-mind) relationship from the brain, or the CNS as a whole, and those that approach it from behaviour. The latter approach would be covered by Psychology and its different specializations, whilst those that focus their analysis on neurobiological variables fit into the framework of medicine and biology. The distinction drawn between Neuropsychology and Neurology can be extended to other specializations of medicine and biology. However, it is logical to ask what is specific about Neuropsychology with respect to other specialized fields of Psychology.

Up to now we have defended the need for the expert in Neuropsychology to possess knowledge and mastery of specific techniques required for working with patients and doing research. It is relevant in this regard to consider

whether such knowledge and skills might not already be covered by other specializations, so that a Neuropsychology specialization would be redundant, and hence unnecessary. There is undeniably a debate in our country at present over whether Neuropsychology should be a sub- or super-specialization of Clinical Psychology. What seems curious is that this debate has emerged as a reaction to the latest relevant health legislation (*Ley de Ordenación de Profesiones Sanitarias*, LOPS), which has little to do with the epistemological conception of Psychology and a great deal to do with political, labour-related and economic issues. Clinical Psychology is considered a specialization within Psychology, which like all of them shares many features with other specializations, as well as having distinguishing elements. The conceptual error lies in confusing the presence of common elements (intersection relationships) with total belonging (inclusion relationships). Assuming that Neuropsychology is a sub-specialization of Clinical Psychology implies an inclusion relationship, in which Neuropsychology's entire body of knowledge would be included in Clinical Psychology (Figure 1). But the above-mentioned need for theoretical postulates, for a process and instruments of assessment and diagnosis, and for interventions that are exclusive to Neuropsychology (and not included in the study programmes of the PIR clinical specialization), makes it difficult to see this as viable. The proposal to extend the internship by one year to obtain such knowledge seems meagre in relation to the training needs of the expert in Neuropsychology, and by comparison with the proposals from countries similar to our own as regards the extent of the programme leading to the qualification of expert in Neuropsychology (see below). An extension of this specialist training period via internship would compensate for the training shortfall, but in this case we could question the need for two consecutive internships. Given the times we live in, it also makes sense to consider some strategic issues concerning the role of Psychology in healthcare. On the one hand, rather than pushing the demand for specialist Psychologists (Clinical Psychologists, Neuropsychologists, or others), Neuropsychology as a sub-specialization of Clinical Psychology implies reducing the total number of Psychologists in the healthcare context, since it is increasingly the case that hospitals and health (or social-health) institutions demand more Psychologists "with a Neuropsychological profile" or "specialized" in the field. At the same time, arguing that Neuropsychology is a part of Psychopathology (Clinical Psychology) involves coming dangerously close a situation whereby those administering health resources consider that since psychiatrists are also experts in Psychopathology, they also possess the appropriate knowledge and skills for assessing, diagnosing and treating neuropsychological or cognitive alterations.

The alternative to Neuropsychology becoming a subdiscipline of Clinical Psychology is to consider that they share the majority of their knowledge and skills, in a relationship of close union (Figure 2), such that it is easy to move from one to the other. On this basis, just as a Clinical Psychologist could become a Neuropsychologist with a further year of training, the same could occur in reverse. Nobody seems to defend this position, and furthermore, both specialities have enough specialized training needs for this model to be discarded. The model traditionally accepted in Psychology at the international level, and until a few years ago in Spain, involves an intersecting relationship (Figure 3), in which the two specialities (in addition to many others) share knowledge and skills emerging from their own scientific evidence and from that of other branches of Psychology, but are in the main independent. There is no doubt that the Clinical Psychologist has to know how to detect the presence of neuropsychological impairments, since they affect behaviour and emotions, but the precise diagnosis and possible treatment are the responsibility of the Neuropsychologist. Likewise, the Neuropsychologist has to be capable of identifying psychopathological phenomena as a normal part of his or her work, but the onus of their differential diagnosis and treatment falls on

FIGURA 1



the Clinical Psychologist. The practical consequence is that in the majority of health, social-health and social institutions, both experts must be members of multidisciplinary teams, as occurs at an international level and in our own country when teams are designed for attending to people with dementia, brain injury, severe mental illness, neuro-developmental disorders, and so on. In clinical practice this kind of collaboration actually takes place, with differentiated roles, though with some shared tasks.

RECOGNITION OF CLINICAL NEUROPSYCHOLOGY: THE SITUATION IN SPAIN AND OTHER COUNTRIES

The development of specialization in Psychology is a process that appears to be imposed by society itself. However, the degree of official recognition of the great specializations (Clinical Psychology, Clinical Neuropsychology, Educational Psychology, Work and Organizational Psychology, etc.) is highly variable. In some countries, some of these are highly structured and acknowledged; others have yet to overcome the difficulties for giving official approval to the reality of professional practice.

FIGURA 2

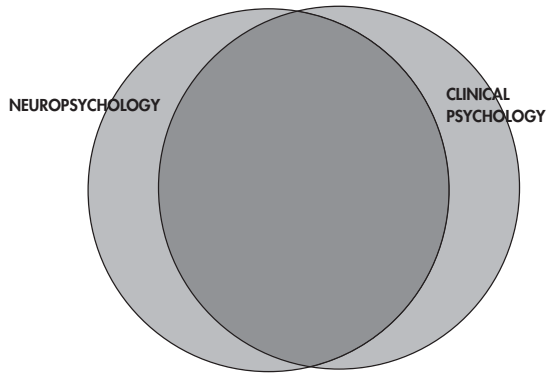
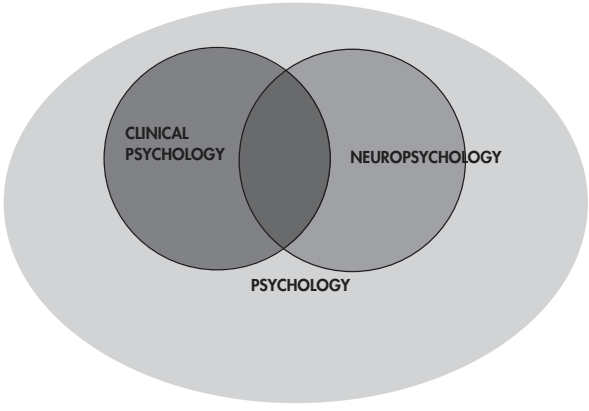


FIGURA 3



Clinical Neuropsychology (CNP), as a specialization linked to the field of Neuroscience, is showing extremely rapid growth. Testimony to this are, for example, that the CNP division of the American Psychological Association is that which is showing the greatest increases in numbers, the founding of specifically neuropsychological institutions (Max Planck Institute of Neuropsychology, Oliver Zangwill Centre for Neuropsychological Rehabilitation, etc.), specific demands for the incorporation of Neuropsychology specialists in clinical and research teams, and the creation of new professional associations throughout the world.

CNP is recognized as a specialized field of Psychology in many countries, the respective psychological associations being the bodies that regulate both training programmes and the award of professional accreditation. In the course of this process of acknowledgement certain significant milestones can be identified. One of these is the point of inflexion at which the bodies in question have established the criteria for those who had trained in and carried out their activity in CPN up to that point to be able to receive accreditation. Up until then, the training pathways had developed in parallel to the development of the specialization itself, basically in response to the specific demands of some professionals who were confronting the distinctive reality of the CPN field of activity. Another significant event has been the definition, together with academic institutions, of certain minimum criteria for the accreditation of training programmes (doctorate, postgraduate, masters, etc.), so as to guarantee that future professionals who have successfully completed these theoretical and practical programmes also meet the criteria set by the professional associations for becoming a specialist in CNP. We shall continue by highlighting some examples of activity in the field by regulatory bodies of the psychology profession in different countries.

The American and Canadian Psychological Associations have defined a model for the independent exercise of this specialization, based on three mandatory accredited training courses. The first of these is a doctorate centred on CNP that includes the generic bases of psychology and clinical practice and the specific study of the brain-

behaviour relationship and CNP. The second involves training in CNP that completes the course for the general practice of Psychology and extends specific scientific knowledge and experience in Neuropsychology and in the clinical practice of the discipline. The third is a training course in CNP whose goal is the achievement of an advanced level of competence in the specialization that will permit those with the qualification to practice as an independent professional. This model was the result of consultation among a large group of experts, and stands as a reference, since it takes sufficient account of the needs for general and specific knowledge and skills to guarantee competence in the field of CNP (The Houston Conference).

The British Psychological Society, which has the authority to award qualifications that permit holders to practice and teach Psychology, deems that Psychologists have met the criteria of specialist in CNP on completing three training programmes accredited by the Society itself: university degree, postgraduate in Psychology and Masters in Neuropsychology (The British Psychological Society).

In Germany, the Society of Neuropsychology, after a period of accreditation of professionals (university degree, 3 years' professional experience in an accredited or supervised institution, documentation from 10 cases of different neuropsychological pathologies and 1000 hours of postgraduate theoretical training) (Preilowski, 1997), moved to a process of accreditation of postgraduate programmes, following a model that includes general clinical training and specific training in CNP, and which makes provision for this specialized field to occupy a specific position within the German health system.

The development of the CNP specialization within Psychology in Spain has followed the course of other countries, up to the point where it became necessary to provide accreditation for specialist professionals in CNP and for the educational pathways. Thus, it is guaranteed that the professional attending to society's needs in the field of Neuropsychology has the competence demanded of the specialization. Similarly to the cases of the other countries mentioned, the responsibility lies with the Spanish Psychological Association (*Colegio Oficial de Psicólogos*, COP), but in contrast to the situation in those other countries, the process was initiated in various regional associations. The first regional association to do this was Catalonia, in 2006, followed by Madrid in 2008. In either case the criteria are basically the same: degree in Psychology and specific postgraduate qualification in Neuropsychology with a minimum of 320 hours of theory and 2400 of practical training. As an alternative to this second criterion applicants can demonstrate a minimum of 4000 hours' professional experience in the field of CNP (in Catalonia this alternative applies only to professionals trained prior to 1999).

In support of this process of specialization is the Spanish Federation of Neuropsychological Associations (*Federación de Asociaciones de Neuropsicología Españolas*, FANPSE), made up of 10 regional societies, and with goals of both a scientific and professional nature. The large number of professionals involved in this Federation suggests that although Spain is still in the process of providing recognition for this specialization, the professional development of CNP in different social-health contexts is well advanced. The Federation includes a commission that will work with the national association (COP) on the study of national accreditation criteria. At the present time, the recognition of the CNP specialization in Spain is backed by a movement with support from various quarters, and our own Federation has the advantage of belonging to the European Federation of Neuropsychology Societies, founded in 2007 with the aim of combining forces and coordinating the different situations and processes relevant to the field.

CONCLUSIONS

Throughout this article we have put forward epistemological, clinical and other types of arguments related to strategies involving the position of Psychology within the health professions, in support of the consideration of Clinical Neuropsychology as an epistemological and healthcare specialization inter-related with other specializations in Psychology. The authors' ultimate aim is to frame the debate on such specialization in an open fashion, and considering first and foremost arguments relating to societal demands and the structuring of Psychology in clinical and basic-knowledge specializations OK, keeping political, economic and labour-related concerns in the background. We do not suggest that such concerns should be ignored; however, we do insist that Psychology confront the debate without any reductionist intentions or desire for conflict, but rather with the aim of giving our discipline the opportunity to help society maintain the highest possible standards of healthcare. With this goal in mind, the authors believe that the recognition of the

specialization in Clinical Neuropsychology can only improve the quality of healthcare and increase its resources, without adversely affecting other specialized fields of Psychology. In the end, increased demand for Psychologists will depend on Psychologists ourselves, as professionals in different fields, increasing the effectiveness of the services we offer.

Finally, we should like to take this opportunity to point out that in Spain there is already an extensive body of specialist professionals in Neuropsychology (with or without official recognition) in active service, and whose intention it is to collaborate with other specialized fields of Psychology, for the benefit of the discipline as a whole. Many of them, moreover, are working for the advancement and recognition of this profession through the regional scientific associations, coordinated by the relevant Federation, the FANPSE (www.fanpse.org).

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