

The Decade 1989-1998 in Spanish Psychology: An Analysis of Research in Personality, Assessment, and Psychological Treatment (Clinical and Health Psychology)

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The aim of this study is to analyze Spanish research published between 1989 and 1998 in clinical psychology and its most directly related psychological disciplines: personality psychology, psychopathology, differential psychology, health psychology, and psychological assessment. A search was performed in the various databases of the works published in that decade by Spanish university professors who investigate in these areas. Their localization was verified by direct correspondence with the professors, to whom was also sent a questionnaire to evaluate their research field and preferred theoretical approach. The 2,079 works located allowed me to identify 85 different research trends. These research trends are characterized by the predominance of applied studies over basic studies, of empirical research over theoretical research, and of the cognitive-behavioral approach over the rest of the theoretical orientations. In addition, various bibliometrical indicators of production, dissemination, and impact were calculated. They revealed that productivity and dissemination of Spanish research in these areas grew considerably during this 1989-98 period.

El objetivo de este estudio es analizar la investigación española publicada durante 1989-1998 en psicología clínica y en las disciplinas psicológicas más directamente relacionadas: psicología de la personalidad, psicopatología, psicología diferencial, psicología de la salud y evaluación psicológica. Se buscó en distintas bases de datos los trabajos realizados en esa década por los profesores universitarios españoles que investigan en esas áreas, y su localización fue contrastada mediante correspondencia directa con los propios profesores a quienes, además, se envió un cuestionario para evaluar su campo de investigación y enfoque teórico preferentes. Los 2.079 trabajos localizados permitieron identificar 85 líneas de investigación diferentes. Estas líneas se caracterizan por el predominio de los estudios aplicados sobre los básicos, de la investigación empírica sobre la teórica, y del enfoque cognitivo-conductual sobre el resto de orientaciones teóricas. Se calcularon además diversos indicadores bibliométricos de producción, difusión y repercusión. Éstos revelaron que la productividad y difusión de la investigación española en esas áreas experimentó un importante crecimiento durante el período 1989-1998.

I would like to express my sincere thanks to all the professors from the area of PAPT who kindly responded to my repeated requests for information. I would also like to thank Juan Fernández, Miguel Ángel García-Pérez, Pilar Herreros de Tejada, and Carmen Muñoz Tedó for their suggestions in the many meetings in which this research was planned, Carmelo Vázquez, Virginia Navascués, and the SJP Editorial Committee for their comments on an earlier version of this article, and José Manuel Igoa, Miguel Ángel García-Pérez and Emilio Sánchez for providing information about clinical and health psychology research carried out by professors from other psychology areas.

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This study analyzes Spanish research published during the 1989-98 decade in clinical psychology and its most directly related psychological disciplines: psychopathology, personality psychology, differential psychology, health psychology, and psychological assessment (see Table 1). In Spain, at the scientific policy and university level, all these disciplines are grouped within an area of scientific knowledge called *personality, assessment and psychological treatment (PAPT)*, although in this article, I shall also use the term *clinical and health psychology* to highlight the applied nature of a large part of the research carried out in this area, and also to indicate the specific field at which such applied research is aimed. In other articles of this special issue, Spanish research in other disciplines and fields is presented, some of which, such as *neuropsychology* or *psychopharmacology* (see the article in this issue by Herreros de Tejada and Muñoz Tedó) have links with clinical psychology. In this sense, it is worthwhile to point out that the article on social psychology by Blanco and Corte (this issue) approaches research carried out in Spain on health psychology, although in this case, from a wholly social perspective. This duplication is not surprising because health psychology is a specialization area that, in principle, receives scientific and professional contributions that are relevant to health and illness from all the psychology disciplines (Matarazzo, 1980). However, in Spain, health psychology is strongly related to clinical psychology and, in fact, the possible existence of health psychology as an independent discipline from clinical psychology was the topic of an intense debate among Spanish researchers during the nineties, as is reflected in the monographic number that the most important Spanish journal from the area (see No. 22 of 1996 of the journal "*Análisis y Modificación de Conducta*" [*Behavior Assessment and Modification*]) dedicated to this controversy. Because of this, the title of this article includes both clinical and health psychology, to emphasize that I shall review health psychology research inspired more clearly in the theories, assessment methods, and intervention techniques of clinical psychology, and readers who are interested in the social perspective of health psychology are referred to the article by Blanco and Corte (this issue).

Following the general outline of this monographic number, the aim of this study is to analyze the scientific production and to describe the main research trends in Spain from the area of clinical and health psychology, from the studies carried out between 1989-1998 by tenured professors in Spanish universities –professors who had tenure, dedicated practically exclusively to teaching and research– who worked in that area. In this sense, until independent Psychology sections were created in the Schools of Philosophy and Arts in 1969, research in clinical and health psychology in our country had no stable institutional structure to support it. The eighties decade was a period of growth and expansion of Psychology in Spain, when the independent Psychology Faculties were created and the Colegio Oficial de Psicólogos [COP; Official College of Psychologists, also denominated The Spanish Psychological Association] – a

Table 1
Research Areas Analyzed in this Article

Personality Psychology
Differential Psychology
Psychopathology
– Epidemiology
– Etiology and Explanatory Models
Clinical Psychology
– Assessment and Diagnosis
– Psychological Treatment and Intervention
Health Psychology
– Etiology and Explanatory Models
– Assessment and Diagnosis
– Health Intervention
– Health Promotion
– Prevention of Illness
– Intervention in Illness
Clinical Gerontology

professional state-level association - was founded. The constitution of the Psychology Faculties involved the creation of new university departments, among which are several related to clinical and health psychology (e.g., psychodiagnosis, personality psychology, abnormal psychology), and, in addition, led to hiring a large number of professors to meet the spectacular increase in the demand of Psychology studies. In this context, research in clinical and health psychology already appeared consolidated and in the various university departments related with the area, an important number of research studies along these lines were being carried out (Ibáñez & Belloch, 1989). Evidence of this is seen in the fact that, in the eighties, there was also a striking increase in the number of scientific journals on Psychology in Spain. Thus, in the 1979-1988 period, 48 new journals appeared, whereas in the 30 preceding years, only 18 journals were edited (Alcaín Portearroyo & Ruíz-Gálvez Papí, 1998). In sum, at the university level, research in clinical and health psychology in Spain is only 25 years old. This fact explains some of the characteristics of Spanish production during the 1989-1998 period, for example, that in spite of having undergone a great increase in the number of studies published in journals of international impact and dissemination during that period, their level is still below that of most of the countries of the European Union.

Method

Data Gathering

The first search through the databases MEDLINE, PsycINFO, and ERIC directed by the coordinator of this monographic issue, Juan Fernández, produced 1,693 bibliographical references of the tenured professors from the area of PAPT. Given the explicit limitations of this first

search (see Fernández, this issue) and in accordance with the work that the coordinator had entrusted to me, I carried out a complimentary search in order to correct the inaccuracies of the first one (e.g., to eliminate false positives, delimit the surnames by the initials of the first name, and include search terms in those cases where the first surname was considered to be the author's second name and the second surname was considered to be the first surname), and limiting the search to MEDLINE and PsycINFO, because ERIC had only provided duplicate references. This second search produced 1,753 references, with which a database was created. This database, which was employed to carry out the analyses that are described in the following section, included the title of the work, author, publication year, abstract, type of study, descriptors, journal title (book chapter or book), and language in which it was written.

Subsequently, the references located about their work were sent by mail to each tenured professor from the area of PAPT (37 Full Professors, 194 tenured university professors, 4 university school Full Professors, and 24 tenured university school professors)¹. This was done so they could ratify or rectify what had been found. In addition, all the professors were also sent a short questionnaire asking about their main research activity, current theoretical orientation, affiliation to national or international scientific associations directly related to the area, and attendance in the last two years at scientific congresses related to the area. Out of the 259 professors from the area of PAPT, 109 (42.1%) responded to the request for information, providing a total of 740 new references, once those that did not meet the criteria explained in Fernández's opening article about the type of publications excluded from this review (e.g., manuals, textbooks, congress proceedings, articles for the general public) had been eliminated. Almost all of these new references corresponded to articles, book chapters, and research books written in Spanish. In addition, 116 new references of studies carried out by professors from the area of methodology of behavioral sciences, however about topics closely related to the ones reviewed here were also included in the database. Similarly, 172 new references of professors from the area of basic psychology, and 2 new references of professors from developmental and educational psychology were also included. Obviously, the number of studies carried out by the professors from these areas in the field of clinical and health psychology was much larger, but much of these works were already in the database because they had been carried out in collaboration with professors from the area of PAPT. Subsequently, the database was refined, eliminating references related to neuropsychology and psychopharmacology,

developmental and educational psychology, and statistical psychology and psychometry, all of which were sent to the respective authors who were reviewing the research in these areas for this monographic issue. I also carried out an exhaustive search and eliminated duplicate references, all of which produced a final database that included 1,853 journal articles and 226 books or book chapters.

Out of the 1,853 references to articles, 1,479 included an abstract and/or description of the type of work provided by the databases PsycINFO, MEDLINE, or PSICODOC98; similarly, of the 226 book or chapter references, 128 included the abstract and/or description of the type of work provided by PsycINFO or PSICODOC98. Therefore, with regard to these references I was able to create six research-study categories: empirical, empirical single-case studies, theoretical, review, meta-analytic review, and commentaries.

From the titles of the works and the abstracts and/or descriptors included in the database, I proceeded to identify specific research trends according to the criterion explained in the opening article of this monographic issue: at least five works published between 1989-1998 by the same university professor and his or her group about the same psychological topic. This analysis revealed 85 research trends, of which 8 were related to professors within the area of basic psychology, and the rest were by professors from the area of PAPT. In the latter case, a new letter or e-mail was sent to them requesting them to confirm the research trend identified and to describe its most relevant aspects, letter to which responded 34 professors (50% of the professors contacted).

Indicators Analyzed

Spanish scientific production from the area of clinical and health psychology was evaluated by the number of works published, the type of research study carried out, and the cooperation index (number of authors per published work).

Theoretical orientation and topic of this production was estimated according to the theoretical orientation and the fields of research activity that were chosen by the university professors who responded to the survey that I sent them, and as a function of the number of identified research trends for each of the areas that appear in Table 1.

Dissemination of Spanish research published in scientific journals was estimated in terms of the number of works published in national and international journals, and of the language in which they had been written (in the official languages of Spain –Spanish, Catalan, Gallician, and Basque – or in other languages). By international journal, I refer to a scientific journal published in any country except Spain, or

¹ No search was carried out nor was any letter sent to ten tenured professors who, although they belong to the area of PAPT, are ascribed to the Department of Differential and Work Psychology of the Complutense University of Madrid and whose research trends are better represented in the article by Blanco and Corte on the area of work psychology and organizational psychology in this special issue. These authors have incorporated these works into their research on Spanish scientific production in the area of social psychology.

a journal published in Spain, which is mainly directed at an international public, as indicated, for example, by the fact that it only publishes in English (e.g., *The Spanish Journal of Psychology*, *European Journal of Psychiatry*). Dissemination of Spanish research published in books and book chapters was evaluated by the language in which they had been written.

The impact of Spanish research was only analyzed with regard to the articles published in scientific journals, because there are no clear indicators regarding books or book chapters. The impact of the articles published was evaluated by means of the expected impact factor (EIF), calculated on the basis of the data provided by the *Journal Citation Reports (JCR)* of the *Science Citation Index* and the *Social Science Citation Index* from the Institute for Scientific Information, for journals classified by the *JCRs* in the following three categories: psychology (including, in turn, ten sections, one of which is clinical psychology), psychiatry, and behavioral sciences. Given that the impact factor of a journal represents the number of times the average article in that journal is quoted within a certain period, this can be used as an indicator of the number of quotations expected for an article published in a specific journal (Bordons, Barrigón, & Méndez, 1996). Given that only the data of the *JCRs* from the *Science Citation Index* of 1998 and from the *Social Science Citation Index* of 1999 were available, I defined the EIF of a work as the impact factor of its journal in 1998 or 1999 (if the journal appeared in both editions of the *JCR*, then the value of the 1999 edition of *Social Science* was chosen). Consequently, the mean EIF was defined as the sum of the EIFs of all the works analyzed divided by the number of works. Since there are only six journals that publish works in Spanish among those included in the *JCRs* in the analyzed categories (*Revista Interamericana de Psicología* [Inter-American Psychology Journal], *Revista Mexicana de Psicología* [Mexican Psychology Journal], *Revista Latinoamericana de Psicología* [Latin American Psychology Journal], *Actas Luso Españolas de Neurología, Psiquiatría y Ciencias Afines* [Portuguese-Spanish Records of Neurology, Psychiatry and Related Sciences], *Psicothema*, and *Psicología Conductual* [Behavioral Psychology]; the last three edited in Spain), their impact factors are necessarily very low because it is not very likely that their articles, regardless of their quality, will be quoted by researchers that do not speak Spanish. Consequently, the majority of the quotations that count when calculating the impact factor are from authors who write in these above-mentioned journals. This circumstance, together with the fact that a large quantity of articles from the area that appear in these six journals, especially the ones edited in Spain, could contribute to infraestimating the mean EIF in the Spanish scientific production in clinical and health psychology. Therefore, I decided to calculate the mean EIF both taking into account all the journals, and also excluding the journals in Spanish; similarly, the mean EIF was calculated only taking into account the journals from the section of *clinical psychology* from the *Social Science Citation Index* (excluding the journals in Spanish).

Statistical Analyses

The chi-square test for goodness of fit was employed to compare the observed and expected frequencies of scientific production for each year. In order to verify whether there was an increase in scientific production and whether this fit the law of exponential increase of science proposed by Price (1963), a linear and an exponential fit of the number of works published per year were contrasted. Pearson's chi-square test was used to analyze the relations between variables if one of them was qualitative (e.g., type of study), and Pearson's correlation coefficient to examine the relationship between quantitative variables, for example, the relation between production year and the number of authors of the works. An alpha level of $p < .05$ was used.

Descriptive and Bibliometrical Analyses of Published Research

Scientific Production

In Figure 1 is presented the annual evolution of the number of articles, book chapters, and books published during the 1989-1998 interval by the Spanish university professors who investigate in the area of clinical and health psychology. The mean scientific production is about 185 journal articles and 23 books or book chapters published per year. Statistically significant differences were observed in the production across the years, $\chi^2(9, N = 2079) = 24.56$, $p < .003$, so that an increase in the number of works is observed when comparing the scientific production of the first years with that of the later years (e.g., the mean number of works goes from 186 in the first three years to 229 in

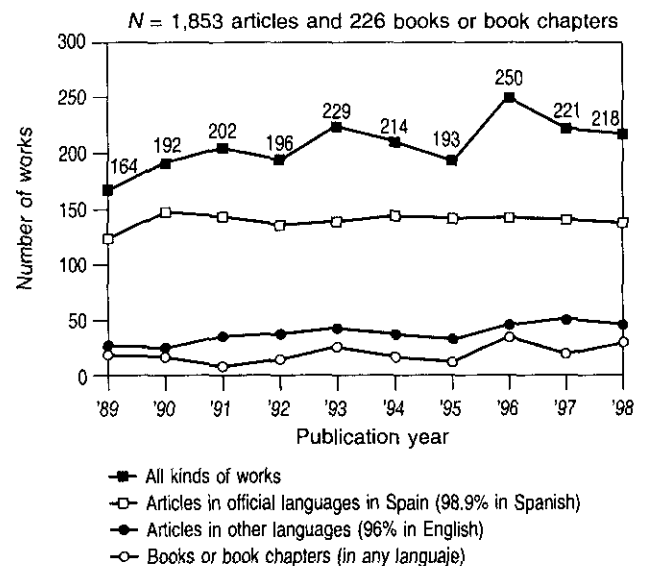


Figure 1. Spanish scientific production in clinical and health psychology during 1989-1998.

the three last years), an increase which is seen in the early 1990s but which decelerates in the mid years of the period under study. The analysis of the mode of the increase of Spanish production in clinical and health psychology fit an exponential model, $r^2 = .502$, $F(1, 8) = 8.05$, $p < .022$, better than a linear model, $r^2 = .486$, $F(1, 8) = 7.56$, $p < .022$, although the difference between both models was not large in terms of the magnitude of the coefficient of determination.

Comprehensibly, the expansion of Spanish scientific production was parallel to the evolution of Spanish national expenditure in scientific research and technological development, especially in comparison to the evolution of Spanish national expenditure in university-based research (the correlation between this latter expenditure and the Spanish scientific production was .74, significant at $p < .01$). As can be observed in Figure 2, there was an increase in the national expenditure in research when comparing the initial and final years of the 1986-1998 interval. However, this increase is not constant across the interval, but it became stable as of 1990. During the 1986-1989 interval, the average annual expenditure in scientific research was almost .68% of the gross national product (GNP), whereas during the years 1990-1998, the annual expenditure rose and became stable at an average of about .86% of the GNP (National Institute of Statistics, 2001a). In this sense, Spanish quantities are far below the expenditure for research made by other countries of the European Union or by the USA; for example, in 1998, the research expenditure in Spain represented .90% of the GNP, whereas the average expenditure of the European Union was 1.81%, and that of the USA was 2.31% (National Institute of Statistics, 2001b). These differences could partially explain the results of the bibliometrical study by Fava and Montanari (1998), who ranked Spanish psychology research (in all fields) in a classification of 90 countries, in 15th and 24th positions, as a function, respectively, of the number of works published during the years 1981-1996 and their impact factor. In both cases, these positions are below the majority of the countries of the European Union, and, of course, below those of the USA, which also holds an advantage over the rest of the European Union.

Two other factors could probably also explain the peculiar evolution of Spanish scientific production in clinical and health psychology, characterized by an obvious increase when comparing the first years of the 1989-1998 interval with the final years, and by a much slower increase during the mid years. The first factor has to do with the fact that, in the years right before the period analyzed, there was an important increase in the number of tenured university psychology professors. This increase is reflected in the area of clinical and health psychology. Thus, taking into account the date of access to the faculty of tenured university professors of the 194 professors from the area of PAPT who belonged to the teaching body at the time in which the study was carried out, one could say that, during the 1986-1989 interval, an average of 18 professors per year gained access, whereas the annual average during the 1990-1998 interval was 12 per year. The second factor refers to the entrance in practice in Spain of a decree-law that establishes, as of 1990, a complementary remuneration for research activity by Spanish university professors, in order to promote such activity. This complement depends on the positive assessment by a national committee created for this purpose, which evaluates the scientific production carried out by the professors in 6-year periods.

In Table 2 is displayed the distribution of the works according to the type of studies. Given that over 40% of the books and book chapters analyzed did not provide this information, the analysis of type of study focuses on journal articles. In these, empirical research is predominant, making up 60.3% of the analyzed articles and 75.6% of the articles that provided information, not counting single-case studies. Narrative reviews and theoretical studies, in that order, occupy the following positions according to frequency, with very similar percentages over the total amount of articles analyzed (8.7% and 7.3%, respectively) or over the total number of articles that provided information (10.9% and 9.1%, respectively). Lastly, single-case studies, a kind of research typical of the clinical and health area, made up 2.7% of the articles analyzed and 3.4% of the articles that provided data, whereas the other study categories (meta-

Table 2
Distribution of the Works as a Function of Type of Publication and Type of Study

Type of Study	Journal Articles		Books or Book Chapters	
	Number	%	Number	%
Empirical	1118	60.3	73	32.3
Single Case	50	2.7	6	2.7
Review	161	8.7	15	6.6
Meta-Analysis	11	0.6	1	0.4
Theoretical	136	7.3	33	14.6
Commentary	3	0.2	0	0
No information	374	20.2	98	43.4
Total	1853	100	226	100

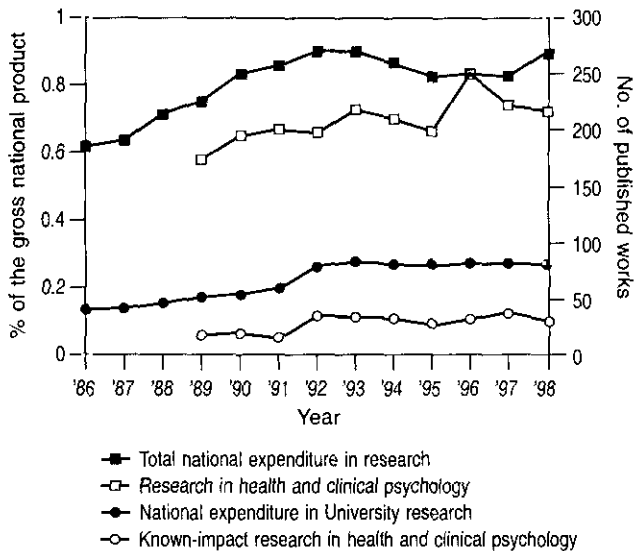


Figure 2. Evolution of scientific production in clinical and health psychology in Spain during 1989-1998 and of the expenditure for research during 1986-1998.

analysis and commentaries) were marginal and did not reach 1% of the articles that provided information.

As shown in Figure 3, the increase in the number of articles published during the 1989-1998 interval is associated with an increase in the number of empirical studies and a decrease in the number of theoretical studies and reviews, $\chi^2(27, N = 1465) = 47.95, p < .008$. The empirical studies rose from an average of 68.7% of the published articles during the 1989-1991 interval to 83.4% of the articles during the 1996-1998 interval, whereas the theoretical studies and reviews rose from 11.3 and 15.4%, respectively, to 7.1 and 6.6% in the same intervals. This increase in empirical research may be one more indicator of the growth of Spanish research in clinical and health psychology, although we should be cautious about the possible uncontrolled publication of empirical studies without appropriate theoretical reflection.

The majority of the research studies (including articles, books, and book chapters) were written by one, two, or three authors (20.4, 34.8, and 23.8%, respectively, of the total works). Subsequently, the most frequent sizes of the research groups that co-sign articles were four (12.2%), five (4.4%), and six persons (2.1%), whereas the articles signed by seven or more authors represent the remaining 2.2% of the articles analyzed. The cooperation index, or mean number of authors per study, during the 1989-1998 period was 2.6 ($SD = 1.4$). This index is similar to that found in other psychology areas in Spain, but notably lower than that observed in biomedicine and other health sciences. For example, from the data presented by García-Pérez (this issue), it can be estimated that the cooperation index for statistical psychology, psychometry, and methodology is 2.3, whereas the results of the study by García Ríó et al. (2000) indicate that it is 5.2 for the medical field of the respiratory system. Nevertheless, without reaching these high quantities

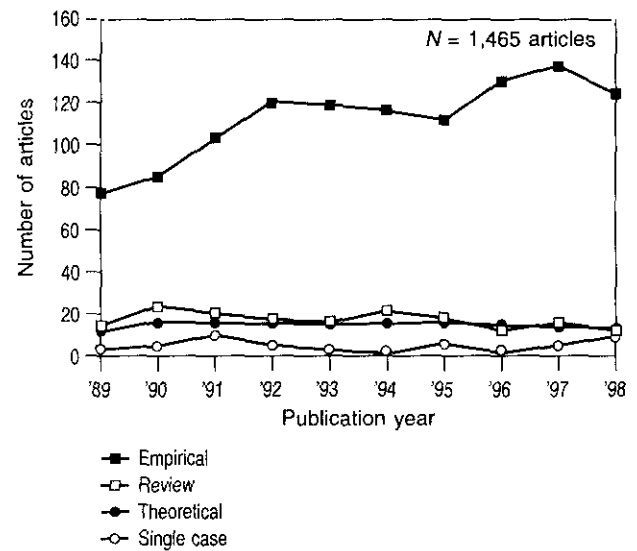


Figure 3. Spanish scientific production in clinical and health psychology during 1989-1998 according to the type of studies published in the journals.

found in medicine, the evolution of Spanish scientific cooperation in the area of clinical and health psychology during the period analyzed is increasing slightly, as indicated by the statistically significant relation between publication year of the article and number of authors of the same, $r = .14, p < .001$. So, for example, the cooperation index rose from an average of 2.4 during 1989-1991 to 2.9 in 1996-1998.

Theoretical Orientation and Research Topic

On the basis of the responses provided by the sample of professors from the area of PAPT who returned the survey I sent them to determine their research fields and preferred theoretical orientations, it could be estimated that the majority of the Spanish studies of clinical and health psychology published during 1989-1998 used a cognitive-behavioral approach. As can be seen in Table 3, the most frequent theoretical orientation among university professors from the area of clinical and health psychology is currently the cognitive-behavioral one, shared by 55.9% of the professors who returned the questionnaire, followed by the behaviorist (11%), the unorthodox psychoanalytical (10.1%), and the eclectic (8.2%). The remaining theoretical orientations represent marginal percentages that do not reach 4% of the sample. This predominance of cognitive-behavioral research is consistent with the approach most frequently employed in professional practice in Spain (see Table 3), despite the fact that there is a greater diversity of orientations among the Spanish professionals from the area of clinical and health psychology than among the university professors. In this sense, it is noteworthy that the psychoanalytical orientations, in all their tendencies, are shared by 11% of the university professors, whereas among clinical professionals, these

Table 3

Principal Theoretical Orientations (Expressed in Percentages) of the University Professors and of Spanish Professionals from the Area of Clinical and Health Psychology

Theoretical Orientation	University Professors 1999 * N = 109	Professionals 1998 † N = 924	Professionals 1986 ‡ N = 768
Cognitive-Behavioral (all tendencies)	68.7	57.5	48.8
Cognitive-behavioral	55.9	45.3	37.9 §
Behavioral	11.0	12.2 ††	10.9
Cognitive	1.8	n.d.	n.d.
Psychoanalytical (all tendencies)	11.0	38.0	37.6
Orthodox Psychoanalytical	0.9	12.2	n.d.
Psychoanalytical	10.1	25.8	n.d.
Eclectic	8.2	9.4	9.2
Constructivist	3.6	n.d.	n.d.
Humanist-phenomenological-existential	2.7	5.0	8.9
Phenomenological-existential	0.9	0.7	n.d.
Humanist	1.8	8.7	n.d.
Systemic	1.8	5.1	3.5
Transactional Analysis	0.0	1.8	2.0
Biological	1.8	n.d.	2.1
Others	6.4	n.d.	7.2
No comment	5.5	2.9	9.0

Note. n.d. = no data. The sample represents 42.1% of the tenured university professors from the area of PAPT; 11.9% of the sample chose the theoretical orientations without indicating their order of preference. † Data from the "Guía de Recursos Psicológicos" of 1998 (Guide of Psychological Resources; COP of Madrid, 1998); the final sample was made up of all the psychologists who defined their professional specialty under the denomination of clinical psychologist (excluding university professors), from an original sample of 1,277 psychologists who represented 16.9% of all the affiliated psychologists in 1998 in the COP of Madrid (1999); 24.4% of the final sample described themselves as having two theoretical orientations. ‡ Data from the study by Camarero and Ferrezuelo (1988); the sample was made up of psychologists who had considered themselves as working in the health area (in the broadest sense), and represented 4.5% of all the psychologists affiliated in 1985 in the national COP; 24% of the sample said they belonged to several theoretical orientations. †† Orientation denominated "behavior modification" in the "Guía de Recursos Psicológicos" of 1998 (COP of Madrid, 1998). § Includes cognitive and cognitive-behavioral orientations.

orientations are adopted by 38% of them. On the other hand, the data in Table 3 are consistent with the bibliometrical results obtained by Robins, Gosling, and Craik (1999) about the prominence of the four most important schools or theoretical orientations in psychology (psychoanalytical, behavioral, cognitive, and neuroscientific), in particular, with the results indicating the decline of psychoanalysis and behaviorism, and the ascent of cognitive psychology.

With regard to the topics approached by Spanish research in clinical and health psychology, these could be estimated as a function of the field of research activity to which the university professors from the area of PAPT who returned the survey assigned themselves, and as a function of the research trends identified among the works analyzed. Both estimations are presented in Table 4 and coincide relatively in the information they provide. In general, it seems that the interest of Spanish researchers tends toward health psychology, adult psychopathology, psychological treatments for adults, assessment-psychodiagnosis of adults, and personality psychology. Regarding this last topic, the two indicators that

appear in Table 4 do not coincide; that is because many of the researchers who assigned themselves to personality psychology work in the more applied aspect of this discipline, and, therefore, their research trends were registered in the health psychology or psychopathology categories, creating a bias in the increased frequency of these categories. In addition to this bias, the discrepancy regarding health psychology is probably due to some identified research trends about psychological interventions in medical diseases that were considered health psychology, when their authors possibly assigned themselves to the psychological treatment category.

Dissemination of Research

In Table 5 is displayed the distribution of the articles according to the type of journal that published them (national or international) and by the language in which they were written, which may indicate the dissemination and availability of Spanish research in clinical and health psychology. Most of this scientific production was written in Spanish and

Table 4
Main Spanish Research Topic Areas in Clinical and Health Psychology

Topic Areas	University professors' self-assignment (<i>N</i> = 109 professors) †		Research trends found (<i>N</i> = 85 trends) ‡	
	<i>n</i>	%	<i>n</i>	%
Psychopathology	19	17.4%	21	24.7%
Adults	11	10.1%	14	16.5%
Children and adolescents	8	7.3%	7	8.2%
Assessment-Psychodiagnosis	19	17.4%	12	14.1%
Adults	9	8.2%	8	9.4%
Children and adolescents	10	9.2%	4	4.7%
Psychological treatment	17	15.6%	10	11.7%
Adults	15	13.8%	9	10.5%
Children and adolescents	2	1.8%	1	1.2%
Personality psychology	18	16.6%	7	8.2%
Health psychology	18	16.6%	27	31.7%
Psychology of addictions	3	2.7%	3	3.5%
Clinical Gerontology	2	1.8%	2	2.3%
Other topics	11	10.1%	3	3.5%
No comment	2	1.8%	—	—

Note. †Results of the questionnaire sent to the Spanish university professors from the area of PAPT, asking about their main research activity; 42.1% of the professors responded to the questionnaire. ‡Corresponds to the research trends described in the section of the article on specific research areas, except that the trends from psychology of addictions are included in the section under psychopathology, whereas the research trends of personality psychology are divided into two sections: personality and differential psychology.

published in Spanish journals, whereas only 26.6% of it was of an international nature, as reflected by the fact that it was published in a foreign journal and/or in a foreign language. This situation, although also frequent in other areas of Spanish psychology (see García-Pérez, this issue), may no doubt contribute to a great extent to the fact that Spanish research in clinical and health psychology goes largely unnoticed in the international scientific community. Nevertheless, it is encouraging to note that the publication of articles written in foreign languages has increased across the period analyzed. Moreover, a visual analysis of Figure 1 suggests that the increase in the Spanish scientific production commented upon

above is more evident in the case of articles published in foreign languages –or rather, in the case of articles published in English, which is the used in 96% of these articles–, so that the mean number of articles published in other languages is twice as high starting in 1990, rising from 23-24 articles during the years 1989-1990 to an average of 48 articles per year during the 1991-1998 interval. The analysis of the mode of increase in Spanish international production in clinical and health psychology fits a linear model, $r^2 = .582$, $F(1, 8) = 11.13$, $p < .01$, better than an exponential model $r^2 = .572$, $F(1, 8) = 10.69$, $p < .011$, although the difference between both models was almost marginal.

Table 5
Distribution of Articles according to Language and Type of Journal

Type of journal (language)	No. of articles	%
International journals (in English) †	386	20.8%
International journals (in Spanish)	62	3.3%
International journals (in Portuguese)	8	0.4%
International journals (in French)	4	0.2%
International journals (in Italian)	4	0.2%
International journals (in German)	1	0.05%
National journals (in Spanish)	1345	72.6%
National journals (in Gallician)	3	0.16%
National journals (in Catalan)	12	0.6%
National journals (in English)	28	1.5%

The journals that publish 50% of the articles are considered the main nucleus of journals of a discipline or topic area (Alcaín Partearroyo & Ruíz-Gálvez Papi, 1998). As seen in Table 6, nine Spanish journals include 50% of the articles published in national journals and make up, therefore, the main nucleus of Spanish journals from the area of clinical and health psychology. Of these, five are specialized journals in this area, whereas the remaining four are nonspecialized psychology journals. Other specialized journals may not be among the most productive because of their recent appearance (e.g., *Ansiedad y Estrés* [Anxiety and Stress] or the *Revista de Psicopatología y Psicología Clínica* [Journal of Psychopathology and Clinical

Psychology], which appeared in 1994 and 1996, respectively), or because they disappeared at the beginning of the interval under study (e.g., *Evaluación Psicológica/Psychological Assessment* or the *Revista Española de Terapia del Comportamiento* [Spanish Journal of Behavior Therapy], both of which disappeared in 1991). Among all of them, *Análisis y Modificación de Conducta* [Behavior Analysis and Modification] published 16.3% of the articles on clinical and health psychology written by professors from the area and which were published in the 1989-1998 interval. Fourteen more journals published another 25% of the articles in national journals and 126 different journals published the remaining 25%.

Table 6

Distribution of Articles by National Journals in which 10 or more Articles were Published during the 1989-1998 Interval

Journal	No. of Articles	Period of activity
Análisis y Modificación de Conducta *	233	1975-
Psicothema * ‡ (0.292)	79	1989-
Boletín de Psicología *	75	1982-
Revista de Psicología General y Aplicada *	67	1946-
Anuario de Psicología *	58	1969-
Psiquis: Revista de Psiquiatría, Psicología y Psicosomática *	57	1979-
Psicología Conductual * ‡ (0.056)	50	1993-
Psicologemas	44	1987-
Clínica y Salud *	37	1990-
Subtotal of the No. of articles (%)		700 (50%)
Revista de Psiquiatría de la Facultad de Medicina de Barcelona *		1987-
(Formerly: Revista del Departamento de Psiquiatría de la Facultad de Medicina de Barcelona)	37	
Cuadernos de Medicina Psicosomática y Psiquiatría de Enlace		1986-
(Formerly: Cuadernos de Medicina Psicosomática)	36	
Estudios de Psicología *	30	1980-
Ansiedad y Estrés *	29	1994-
Anales de Psiquiatría *	28	1985-
Revista de Psicología de la Salud/Journal of Health Psychology	27	1989-
Anales de Psicología	23	1984-
Revista de Psicopatología y Psicología Clínica	23	1996-
Evaluación Psicológica/Psychological Assessment *	22	1985-1991
Revista de Psicología. Universitas Tarraconensis *	22	1986-
Adicciones	20	1989-
Revista Española de Terapia del Comportamiento	18	1982-1991
Psicológica *	17	1980-
Actas Luso-Españolas de Neurología, Psiquiatría y Ciencias Afines * ‡ (0,013)	14	1972-
Subtotal of the No. of articles (%)		1046 (75%)
Revista Española de Drogodependencias	14	1976-
JANO. Medicina y Humanidades	13	1971-
Anales Españoles de Pediatría	12	1968-
Others (122 journals of Psychology, Psychiatry, Medicine, Pedagogy, and related sciences)	303	—
Total of No. of articles (%)		1388 (100%)

Note. * Journals currently listed or at some point of their publication in the PsycINFO database of the American Psychological Association.

‡ Journals listed in the *Social Science Citation Index* of 1999 or in the *Science Citation Index* of 1998 from the Institute for Scientific Information and about which is provided information of their impact factor (in brackets).

With regard to the scientific production published in international journals, the data displayed in Table 7 indicate that it is much more disperse, with no consistent nucleus acting as an international dissemination means for Spanish research. In effect, taking into account the ten English-language journals that have published at least five articles written by Spanish researchers, these do not even amount to 36% of the articles published in English, so that the 385 articles published in international journals in the English language are distributed among 182 journals, an approximate means of 2 articles per journal. However, it is noteworthy that the two international journals that publish the highest number of Spanish works – *Personality and Individual Differences* and the *European Journal of Psychological Assessment* – are both edited in Europe, were founded by European psychologists, and their Editorial Committees are essentially made up of European experts, all of which has surely influenced the preferences of Spanish researchers, especially in the case of the second journal, directed since its foundation by two Spanish university professors from the area of PAPT.

Lastly, dissemination of Spanish research in clinical and health psychology in Latin America is noteworthy. Scientific

production in Latin American journals (58 articles) makes up 3% of the total number of articles published by Spanish researchers in all kinds of scientific journals, and 12.5% of the total number of articles published in international journals. Although, in this case, language is no problem for the dissemination of Spanish research in Latin America, the lack of coincidence in interests and research topics might be an obstacle (e.g., whereas the cognitive-behavioral approach is predominant in Spain, in the South American countries, psychoanalysis is almost dominant in the area of clinical psychology; Fernández Álvarez, Olabarría González, & Ávila-Espada, 1998), as well as the strong professional and assistance bias in Latin American clinical psychology, which has sometimes been interpreted as lack of interest in research (Fernández Álvarez et al., 1998), or, simply, the fact that most Spanish researchers, too concerned with, and even dependent on, psychology carried out in the USA, are ignorant about the research carried out in Latin American countries in clinical and health psychology, research which relies on a large number of scientific journals, three of which are mentioned in the international lists of known-impact journals (see the Method section).

Table 7

Distribution of Articles by International Journals in which 5 or more Articles were Published during the 1989-1998 Interval

Journal	No. of Articles	Impact Factor 1999 †
In English		
Personality and Individual Differences	45	0.728
European Journal of Psychological Assessment	24	0.578
Psychological Reports	22	0.266
Perceptual and Motor Skills	15	0.343
European Psychologist	6	—
Journal of Constructivist Psychology (Formerly: International Journal of Personal Construct Psychology)	6	0.114
Acta Psychiatrica Scandinavica	5	1.619
European Journal of Personality	5	0.9
International Journal of Psychophysiology	5	1.829
Journal of Asthma	5	1.163 *
Others (172 journals of Psychology, Psychiatry, Medicine, and related sciences)	247	—
In Spanish		
Revista Latinoamericana de Psicología (Colombia)	11	0.027
Revista de Psicología. Pontificia Universidad Católica de Perú	8	—
Avances en Psicología Clínica Latinoamericana (Colombia)	6	—
Revista Mexicana de Psicología	5	0
Others (16 journals from Mexico, Argentina, Chile, Colombia, Cuba)	28	—
In other languages		
16 journals from Germany, Brazil France, Italy, and Portugal	22	—

Note. † The impact factor of the journal was obtained from the *Journal Citation Reports* listed in the *Social Science Citation Index* of 1999, except for the case marked with an asterisk; this factor was obtained from the *Journal Citation Reports* listed in the *Science Citation Index* of 1998 and was not taken into account in the analyses of the expected impact factor of Spanish scientific production in clinical and health psychology presented in the text, because this journal does not belong to the categories of psychology, psychiatry, or behavioral sciences.

Research Impact

Figure 4 presents the evolution of the impact of Spanish scientific production from the area of clinical and health psychology as a function of the number of articles published in English-language journals with an impact factor in the areas of clinical psychology, psychiatry, and behavioral sciences, and as a function of the EIF of the articles. As can be seen, Spanish scientific production in known-impact journals increased significantly during the period under study. The annual mean rose from 14 articles published in known-impact journals during the years 1989-1991, to an annual mean of 32 articles in the last seven years of the interval. The analysis of the mode of increase of Spanish production with impact in clinical and health psychology fit an exponential model, $r^2 = .546$, $F(1, 8) = 9.60$, $p < .015$, better than a linear model, $r^2 = .497$, $F(1, 8) = 7.90$, $p < .023$. Coinciding with the data and conclusions presented regarding the total Spanish scientific production in the area of clinical and health psychology, the production of works with international impact has increased parallel to the increase in the Spanish national expenditure in research (see Figure 2), especially in comparison to the evolution of Spanish national expenditure in university-based research (the correlation between this latter expenditure and the Spanish scientific production in known-impact journals was .87, significant at $p < .001$). Thus, there was an increase in the production of works with international impact in the initial years of the period under study, but this increase decelerated in the mid years.

Contrariwise, the increase in the number of articles published in known-impact journals was not associated with an increase in the EIF of those articles, so that the mean during the years 1989-1991 was practically the same as the mean during the years 1992-1998 (0.96 versus 0.98, respectively; the correlation between the publication year and the EIF was .13, nonsignificant). That is, the increase in the number of published studies in known-impact journals has not been accompanied by an increase in the international impact level of those studies.

Taking into account only known-impact journals from the area of clinical psychology, that is, excluding the journals of the remaining areas of psychology, psychiatry, and behavioral sciences, the analysis of the EIF of the 49 articles published in these journals showed similar results to those presented above, with a mean EIF of 0.9725 for the whole period of 1989-1998. As expected, when known-impact Spanish-language journals were included, the analysis of the EIF of the 397 articles published in known-impact journals in the areas of psychology, psychiatry, and behavioral sciences revealed a lower mean EIF (0.7161) for the period analyzed.

It is difficult to establish a comparison of the impact of Spanish scientific production in the area of clinical and health psychology with that of other countries, because there are no specific studies about this. However, it might clarify the situation to consider the mean EIF of Spanish publications

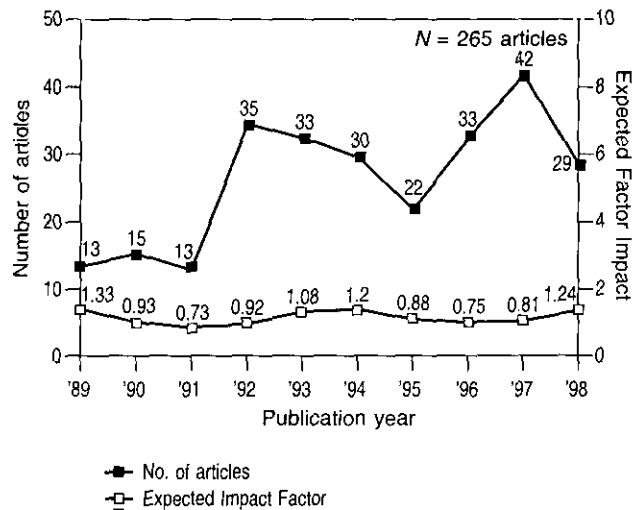


Figure 4. Spanish scientific production in clinical and health psychology during 1989-1998 included in the international impact indexes and mean expected impact factor of such production.

during the 1989-1998 period, that is, 0.98, in terms of the impact factor of journals from the area of clinical and health psychology. In this sense, of the 87 journals listed in the *Social Sciences Citation Index* of 1999 under the category of clinical psychology, 65.5% have an impact factor lower 0.98, only seven journals have an impact over 2, and the two journals that occupy the first position according to their impact factor, the *Journal of Clinical Psychiatry* and the *Journal of Consulting and Clinical Psychology*, present values that do not reach 4.2 (4.17 and 3.919, respectively). Moreover, of the 484 journals listed in the *Social Sciences Citation Index* of 1999 within the category of psychiatry and all the psychology categories, 83.5% have an impact factor lower than 0.98.

Similarly, because of the limitations of the impact factor when comparing research fields, it is questionable to compare the impact of some of the works carried out by Spanish university professors from the area of clinical and health psychology with that obtained by the works carried out in other scientific fields in Spain. However, as an example, the mean EIF was 1.380 for the Spanish scientific production in nutrition-dietetics, 1.410 for pharmacology-pharmacy, 2.701 for neurosciences, and 1.859 for the respiratory apparatus (Barneys, Recasesns, Camps, & Salas-Salvadó, 1992; Bordons et al., 1996; García Río et al., 2000; López Muñoz, Marín, & Boya, 1996). If we compare these data with those of the maximum impact factor of the publications of each area in 1998 (i.e., if the mean EIF is divided by the impact factor of the journal that occupies the first position for each area), we would obtain a relative impact factor of 0.230 for nutrition, 0.067 for pharmacology, 0.117 for neurosciences, 0.356 for the respiratory apparatus, and 0.235 for clinical psychology (0.175, including the works published in the four journals from the clinical psychology and psychiatry area that publish articles in Spanish and are listed

in the *Citation Index*)². Therefore, one could estimate that the impact of Spanish research in the area of clinical and health psychology could even be higher than that of the two topic areas that have the greatest amount of Spanish scientific production in biomedicine and health sciences according to the results of the study by Camí, Zulueta, Fernández, Bordons, & Gómez (1997), for the 1990-1993 interval: pharmacology-pharmacy and neurosciences-neurobiology.

Specific Research Areas

In this section are described the research trends in the general area of clinical and health psychology and related disciplines, which were identified according to the criteria mentioned in the Method section, from journal articles, book chapters, and books published between 1989-1998 by Spanish university professors working in that area and that make up the sample of bibliographical references located for this study. Although the analysis only covers the 1989-1998 decade and, therefore, the identified research trends include at least five works published between 1989-1998, some of the references mentioned below correspond to works published later if those works offer a more complete or truer panorama of the identified research trends, following the suggestions of the researchers whom it was possible to contact when carrying out this study.

Personality Psychology

Despite the fact that almost 17% of the professors from the area of PAPT consider themselves personality psychologists, very few research trends were found that are related to the basic issues of personality psychology, for example, the basic personality structure, its stability and development, its motivational and emotional aspects, its relation with culture, individual differences, or the self. This situation can be partially accounted for by the boom of applied research. As will be seen below, many research groups prefer to apply the concepts derived from personality psychology to the field of psychopathology, clinical psychology, and health psychology, so that, for example, the study of the self and its relation to emotional disorders represents an area of special research activity via concepts such as negative self-schemata or self-awareness. Likewise, other personality psychologists prefer to examine, for example, the role of personality factors in the problems of drug abuse and delinquency in adolescents, the Type A behavior pattern as a risk factor for cardiovascular

disorders, or personality co-determinants of chronic medical diseases. All these more applied research trends will be reviewed below under the headings of psychopathology, clinical psychology, or health psychology.

Returning to the basic issues of the discipline as, for example, personality structure and its dimensions, a group of researchers has contrasted the validity of the Big Five model to represent this structure in the Spanish population. For this purpose, they carried out various studies with extensive samples of adults from the general population and from university students, in which were analyzed the factor validity of the NEO Personality Inventory (NEO-PI) by Costa and McCrae and its relation with other clinical variables—for example, depression, social anxiety, schizotypy—and personality variables—for example neuroticism, extraversion, and psychoticism according to Eysenck's model— (Avia et al., 1995; Silva et al., 1994). The results, in general, confirm the plausibility of the Big Five model, although they also highlight the problems in differentiating between extraversion and openness to experience.

A related research trend was aimed at conceptualizing and measuring people's basic interpersonal relationship tendencies, that is, interpersonal orientation. To evaluate these tendencies, a package of four versions (junior, adult, self-rating, and other-rating) of the instrument "Dimensiones de Orientación Interpersonal" (DOI; Interpersonal Orientation Dimensions) was developed, and various structural and across-cultural analyses were carried out, as well as relating the dimensions evaluated to the basic personality dimensions. The results of these studies indicate that there are two secondary factors of interpersonal orientation, prosocial-antisocial behavior (which includes traits such as consideration toward others, respect/self-control in social relations, and aggressiveness/antisocial behavior) and sociability-insociability (which groups the traits leadership-social ascendancy, reservedness, and social anxiety-shyness), and that both factors are represented by the clearly interpersonal dimensions of extraversion and agreeableness from the Big Five Factors, although with some contribution from neuroticism (Silva, Martínez, Moro, & Ortet, 1996; Silva, Martínez Arias, Rapaport, Ertle, & Ortet, 1997).

It is obvious that, in the last few years, the Big Five model has awakened great interest among Spanish psychologists, as in other European countries and, evidently, in the USA, the country that generated and disseminated the model. However, Spanish personality psychology has an extensive research tradition in European models of personality structure, in particular, the theories of Eysenck

² This comparison should be taken with precaution because in the quoted works, the EIF of an article was estimated as a function of the impact factor of the journal in the year in which the article was published, whereas in this work, only the impact factors of the journals for the year 1998 or 1999 were available, depending on whether the journal was listed in the Science Citation Index or in Social Science Citation Index, respectively. On the other hand, the intervals investigated by the various works vary: 1987-1990 (nutrition), 1980-1989 (pharmacology-pharmacy), 1984-1993 (neurosciences), and 1987-1998 (respiratory apparatus). However, it is important to point out that the EIF for Spanish scientific production in clinical and health psychology was relatively constant during the 1989-1998 interval, as is seen in Figure 4.

and Gray. Proof of this are the series of studies carried out during 1989-1998 about the analysis of the cognitive mechanisms underlying the dimensions of extraversion-neuroticism and sensitivity to signs of reward-punishment, and, in general, the validation of both theories (Ávila, 1995; Ávila, Moltó, Segarra, & Torrubia, 1995).

Another classical personality psychology topic, the self, has been approached from Goffman's dramaturgical model and, specifically, from the construct proposed by Snyder to assess individual differences in the extent to which people observe and control their own expressive behavior and the way in which they present themselves to others so as to control the impressions they make on other people. Studies along these lines have emphasized, for example, the existence of two different manners of self-observation based on different motivational systems, defensive self-observation (aimed at avoiding social reproof) and assertive self-observation (characterized by the active search for more social power), which are related in different ways to the basic personality dimensions of the five-factor model: defensive self-observation is related to neuroticism, and assertive self-observation to extraversion and openness to experience (Avia, Sánchez-Bernardos, Sanz, Carrillo, & Rojo, 1998; Sanz, Sánchez-Bernardos, & Avia, 1996).

Differential Psychology

Scientific societies dedicated to the investigation of individual differences occupy the first positions among the international and national associations to which belong university professors from the area of PAPT (Sanz, 2001). As in the case of personality psychology, many researchers who work in differential psychology do so in the applied topics related to clinical and health psychology, or in other specialization areas. Nevertheless, there is an important research tradition of individual differences per se, for example, differences in intelligence and aptitudes. Thus, from the perspective of cognitive differential psychology, a research trend to study the individual differences in cognitive processes of memory and deductive and analogical reasoning has been developed. The relations of these differences with global processing skills, as measured by psychometric aptitude tests, are also explored (Colom, Andrés-Pueyo, & Juan-Espinosa, 1998; Leo Nieto & Colom Marañón, 1995).

Individual differences in the cognitive style field independence-dependence, originally proposed by Witkin, has been the object of several studies (Forns Santacana & Amador Campos, 1990; Forns Santacana, Amador Campos, & Roig López, 1993) that have analyzed, for example, their relation with extraversion, cognitive aptitudes, or sequential-successive information-processing, as well as the role of sex, socio-economic position, and cognitive skills (verbal vs. perceptual) in such as cognitive style differences.

The search for a theory to explain individual differences in self-perceived satisfaction has guided a series of works that analyze their relation to sex, the vital cycle period, family and labor situation, and social class. In these works, family and work satisfaction and their relation were evaluated, as well as the causes for dissatisfaction in each of these environments (Sánchez López & Quiroga, 1995), to determine whether the explanation of individual differences in satisfaction was related to between-subject differences in general personality styles and, specifically, in the subject's own different expectations and plans to achieve these expectations, that is, the differences in personal goals and objectives (Díaz Morales & Sánchez-López, 2000).

Psychopathology

Epidemiology

Although infrequent, there are some important contributions from Spanish clinical psychology in the area of epidemiology, mainly with regard to childhood and adolescent depression, drug addictions, pathological gambling, and mental disorders in homeless persons. In the case of depression, the studies initially were descriptive transversal designs with children of a mean age of 9 years old, and subsequently the studies became more complex with analytical studies of longitudinal designs that have studied adolescents from the age of 11 until 18 years, in an attempt to obtain risk factors of depression (Canals, Domènech, Carbajo, & Blade, 1997; Canals, Martí Henneberg, Fernández Ballart, & Domènech, 1995).

Epidemiological research has also approached the problem of drug consumption. Various longitudinal studies with adolescents have been developed, attempting to characterize the pattern of consumption in Spain of cocaine and heroin consumers, with the basic aim of determining models of drug consumption onset in order to generate adequate prevention programs and exhaustive evaluation systems of these programs (Fuente, Barrio, Vicente, Bravo, & Santacreu, 1995; Santacreu Mas & Froján Parga, 1995).

A third research trend has analyzed the prevalence of pathological gambling in Spain, using, for this purpose, questionnaires and diagnostic interviews. The results of this program show that this disorder has become a severe social problem in the last few years in Spain, affecting from 1.5 to 1.7% of the adult population (among whom there is also a high prevalence of depression, about 21%), and from 1.6 to 2.4% of the childhood and adolescent population between the ages of 11 and 16 years (Becoña, 1997; Becoña, Labrador, Echeburúa, Ochoa, & Vallejo, 1995).

Lastly, in the interdisciplinary area with social psychology, the prevalence of mental disorders in homeless persons has been studied, using diagnostic interviews that employ reliable diagnostic criteria, as well as etiological

interaction between these disorders and stressing vital events in the onset and maintenance of homelessness. This research trend has also focused on the relations between these persons' state of physical and mental health, their socio-economic history, and the use they make of health and social services (Muñoz, Vázquez, Koegel, Sanz, & Burnam, 1998; Vázquez, Muñoz, & Sanz, 1997).

Etiology and Explanatory Models

The predominance of cognitive-behavioral orientation among Spanish researchers is clearly seen in the research of the explanatory factors of psychological disorders, an area characterized by having many studies on cognitive factors in specific disorders.

Emotional Disorders: Anxiety and Depression. The cognitive processes associated with anxiety and depression doubtless make up the etiological factors that have awakened the most interest in Spanish research aimed at explaining the origin and course of mental disorders. The studies on cognitive processes in depression have attempted to validate some of the hypotheses that are derived from the three most important cognitive models that explain this disorder. Thus, a first research trend is based on Bower's associative network model of emotion and memory, and focuses on the study of the effect of congruence in emotional information processing in clinically and subclinically depressed persons, exploring the existence of this effect, for example, at the level of explicit and implicit memory (Ruíz Caballero & González, 1994) and at the level of autobiographical memory (Ruíz Caballero & Moreno, 1993).

Two other research trends fall within the cognitive theory of emotional disorders proposed by Beck, in particular, his hypotheses about cognitive differences between anxiety and depression. The results of the first research trend (Sanz, 1996a; Sanz & Avia, 1994) suggest that, regarding the differentiation of depression and social anxiety, Beck's hypothesis of content specificity seems valid to differentiate the cognitive products revealed in both disorders (e.g., their typical negative self-statements or negative internal dialogue). However, the results are not totally consistent with Beck's hypothesis regarding cognitive operations (e.g., biases in negative self-referent memory are more evident in depression than in social anxiety, whereas Beck expected them to be present in both disorders although with differences in the content of the information favored by the persons) or regarding cognitive structures and propositions (e.g., dysfunctional attitudes).

The works in the other trend inspired in Beck's cognitive theory have approached a great diversity of emotional disorders (e.g., phobias, panic, depression) and have also attempted to characterize the differential cognitive profiles of these disorders in a great variety of cognitive constructs, both cognitive structures and propositions (e.g., negative self-schemata), as well as, especially, cognitive operations such as negative biases in attention, memory, and when interpreting ambiguous

information (Gallardo Pérez, Baños Rivera, Belloch Fuster, & Ruipérez Rodríguez, 1999; Quero, Baños, & Botella, 1996).

A fourth research trend related to investigation of cognitive processes in emotional disorders is based on Abramson, Seligman, and Teasdale's reformulated learned helplessness theory and on Abramson, Metalsky, and Alloy's hopelessness theory. This trend has analyzed higher order cognitive aspects associated with clinical and subclinical depression, for example, causal attributions, perception of control and contingency judgements, as well as more basic cognitive processes, mainly memory and selective processes, in an attempt to detect cognitive markers of depression (Hartlage, Alloy, Vázquez, & Dykman, 1993; Vázquez, Jiménez, Saura, & Avia, 2001).

A fifth research trend has focused on self-knowledge and self-awareness in depressed persons. For this purpose, the Self-Consciousness Scale was adapted and validated in the Spanish population. Together with other instruments and experimental tasks, it has allowed researchers to relate depression to a more negative self-perception and a higher tendency to self-focusing of attention (Baños, Belloch, & Perpiñá, 1990; Belloch, Baños, Perpiñá, Ruipérez, & García-Palacios, 1998).

Another group of researchers, more centered on the interaction between psychosocial and cognitive factors, has examined the relation between social support and mental health, especially depression, among persons who were exposed to stressing situations, such as severe economic difficulties. The perception of social support seems to have buffering effect on the negative effects of stress, so that it is positively and directly related to mental health and also indirectly, via the coping strategies that it facilitates (Buendía & Riquelme, 1993; Riquelme, Buendía, & Rodríguez, 1993).

Schizophrenia. The study of cognitive, neuropsychological, and psychophysiological processes associated with schizophrenic disorders has also aroused great interest among Spanish psychologists as a way to study the causal factors of these disorders, producing at least four research programs.

By means of transversal and longitudinal studies, a first program has attempted to detect psychological risk markers for the spectrum of schizophrenic disorders. This research trend has worked with cognitive and neuropsychological markers (attention, memory, and performance disorders), assessment of psychometrically diagnosed schizotypy, and assessment of markers of neurological development dysfunction (Obiols, Serrano, Caparrós, Subirà, & Barrantes-Vidal, 1999; Rosa et al., 2000).

Similarly, a second research program has been based on the early detection of neurocognitive markers related to vulnerability to disorders from the schizophrenia spectrum, in order to study the essential components of psychometrically diagnosed schizotypy in the normal population of children and youngsters, as well in the population of genetic risk. The results of these studies indicate that the negative factor of schizotypy (social anhedonia, lack of emotions and isolation)

is the most powerful predictor of or the factor most related to markers of neurocognitive vulnerability or to the risk of developing clinical disorders (Lemos Giráldez, India Caro, López Rodrigo, Paíno Piñeiro, & Besteiro González, 1999; Martínez Suárez, Lemos Giráldez, India Caro, Paíno Piñeiro, & López Rodrigo, 1999).

The studies belonging to the third research trend not only address cognitive markers of vulnerability to schizophrenia, but also the characteristics of schizophrenic thought and the memory, attention or auditory discrimination alterations that allow distinguishing the different types of schizophrenia from each other and from other psychopathological disorders, for example, depression (Godoy, Catena, Caballo, & Puente, 1990; Godoy et al., 1994).

Lastly, a fourth research trend has studied the arousal level of the autonomous nervous system in schizophrenic patients in terms of various dermoelectric activity parameters, and has analyzed its relation with the presence of positive and negative symptoms and with response to treatment (Fuentes Dura, García Merita, Miquel, & Rojo, 1993, 1995).

Delinquency and Antisocial Behavior. Another topic that has also interested various Spanish research teams is the relation between personality factors and delinquency or juvenile antisocial behavior. At least two groups have developed investigation programs in this area. The first group has focused on the different personality profiles that adolescent and juvenile delinquents and nondelinquents may present as a function of sex and of variables such as neuroticism, extraversion, psychoticism, dogmatism, rigidity, or locus of control (Báguena & Díaz, 1991; Díaz, Belena, & Báguena, 1994). The second group has emphasized the role of impulsivity, the ability to delay gratification, and self-esteem in adolescents' antisocial behavior in an integrative model that also contemplates the role of variables related to family, friends, and school (Luengo, Carrillo de la Peña, Otero, & Romero, 1994; Otero López, Romero Trinanes, & Luengo Martín, 1994).

Drug Abuse and Addiction. There are also at least two research trends focused on the causal factors of the origin and/or maintenance of the problems of drug abuse and addiction. Within the first trend, various studies have been carried out on the role of family in the origin and course of these problems. These investigations have focused on the study of family environment and, especially, on the concept of expressed emotion, which refers to a family environment that is hypercritical and hostile towards the addict, and shows an excessive emotional involvement, in the form of excessive protection or concern. The results of the investigations seem to support its role as a prognosis factor of therapy dropout and relapse (Espina, Ayerbe, Pumar, & García, 1996; García, Espina, Pumar, Ayerbe, & Santos, 1996).

The second trend has gone beyond family factors to consider the role of peer groups and personality variables in the onset and maintenance of the problems of drug abuse

and addiction in adolescents. Their results show, for example, the capacity of sensation-seeking (especially the dimensions of disinhibition and experience-seeking) to predict progression of drug consumption of adolescents, and the importance of peer groups' consumption behavior (Luengo, Otero López, Romero, & Gómez Fragueta, 1996; Otero López, Mirón Redondo, & Luengo Martín, 1989).

Eating Disorders. In this field, intensive work is also being carried out in Spain in the investigation of the intervening factors in the onset of eating disorders, especially sociocultural and psychological factors related to the practice of rigid diets, concern with thinness, body dissatisfaction, low self-esteem, and the presence of associated psychopathology, for which specific assessment techniques have been designed or adapted (Raich et al., 1992; Raich, Torras Claraso, & Mora Giral, 1997b).

Of all the factors involved in the origin, maintenance, or exacerbation of eating disorders, various Spanish studies have focused specifically on cognitive factors, and especially, on the role of body image distortions and selective processing of body- and food-related information (Perpiñá & Baños, 1990; Perpiñá, Leonard, Treasure, Bond, & Baños, 1998a).

Other Disorders. Spanish researchers have also studied the role of cognitive factors in hypochondria, especially the role of attitudes and thoughts related to the conviction of and concern about being ill, and the role of cognitive biases that induce hypochondriac patients to interpret certain ambiguous body sensations or external information as threatening to their health (Martínez & Belloch, 1998; Martínez-Narváez & Belloch, 1993).

There is also an important research trend about childhood attention deficit hyperactivity disorder, trend that includes its assessment, diagnosis, and treatment, as well as its etiology. Regarding this last point, the works centered on the cognitive processes of children who suffer from this disorder are noteworthy: These works have analyzed their selective and continued attention and memory deficits, as well as the presence of externalizing attributional biases related to self-esteem (Orjales Villar & Polaino Lorente, 1992; Villar & Polaino Lorente, 1994).

The work of another research program has been centered on the study of child abuse, especially, the sequential analysis of the coercive interaction patterns between mothers and children that are observed in cases of child abuse and may distinguish mothers with high and low risk of committing these abuses (Cerezo & D'Ocón, 1998; Dolz, Cerezo, & Milner, 1997).

Lastly, psychophysiology of sleep and its disorders has been approached within a research program that analyzes the psychophysiology of activation and its circadian variations, the effects of sleep deprivation on psychophysiological and performance variables—as well as its differential effects on depression—, the psychophysiological assessment of daily

activation in patients with apnea, sleep parameters related to differences in reaction time, and individual differences associated with various sleep patterns, for example, personality differences (Jurado, Luna Villegas, & Buela Casal, 1989; Tankova, Adan, & Buela Casal, 1994).

Clinical Psychology

Clinical psychology has always been defined by its applications, and of these, the two most characteristic are doubtless assessment/diagnosis and treatment/intervention in psychological disorders. No wonder that practically all the research in the area of clinical psychology is on these two activities. However, before describing in detail these investigations, it is worthwhile emphasizing three research trends that are not dedicated to these two main activities.

On the one hand, from a historical approach, studies have been carried out on the evolution of clinical psychology and psychological assessment in Spain. In addition, these studies have empirically analyzed the current situation of these disciplines, especially the epistemological concept and orientation (regarding preferred theoretical model) of the young Spanish psychologists with clinical vocation (Buela Casal, Álvarez Castro, & Sierra, 1993; Buela-Casal, Carrolles, & Sierra, 1995).

The second research program is aimed at the assessment and comparison of the attitudes of professionals in judicial and penitentiary environments, which may play an important role in these professionals' performance. For this purpose, the "Escala de Actitudes hacia la Delincuencia" (EAD; Attitudes towards Delinquents Scale) was created, by which a clear relation between attitudes and the professional role (rehabilitation, defense, arrest, vigilance) was found (Ortet Fabregat & Pérez, 1992; Ortet Fabregat, Pérez, & Lewis, 1993).

A third research trend aimed at psychological intervention with sports-people should also be mentioned, within which intervention programs to improve sports performance have been developed, with special emphasis on controlling anxiety (Gil, Capafons, & Labrador, 1998; Labrador, Crespo, Buceta, & González, 1996).

The last two research trends mentioned would fall within the counseling activities that current conceptions of clinical psychology consider as belonging to clinical psychologists (Bernstein & Nietzel, 1982; Colegio Oficial de Psicólogos, 1998; Kendall & Norton-Ford, 1988). However, their inclusion may raise some doubts. In any case, their presence is an example of the variety of interdisciplinary topics that interest applied investigation developed in Spain, from a clinical psychology framework, or perhaps, from the area of PAPT, topics that are often beyond the scope of this article simply because the research programs did not meet the a priori established criteria of five publications carried out by the same group during the 1989-1998 period (e.g., studies in the area of forensic psychology).

Assessment and Diagnosis

Within the field of assessment and clinical diagnosis, assessment of children's depression has generated the most research trends during the 1989-1998 period. At least three groups have worked on this topic (although with notable connections between them), for the most part, adapting and psychometrically analyzing the main questionnaires and other-rating scales used internationally to measure children's depression, for example the Peer Nomination Inventory of Depression, the Children's Depression Rating Scale-Revised, the Children's Depression Inventory, or the General Rating of Affective Symptoms for Preschoolers (Araneda, Moreno-Rosset, Jané, & Domènech-Llabería, 1998; Barrio, 1993; Ezpeleta, Polaino, Domènech, & Domènech, 1990; Frías, Barrio, & Mestre, 1991). At other times, original instruments in Spanish have been designed and validated, for example, the "Escala de Sintomatología Depresiva para el Maestro" (ESDM; the Scale of Depressive Symptomatology for the Teacher) by Domènech and collaborators, developed for early detection of depression in children, based on teachers' reports (Domènech & Polaino Lorente, 1990; Mestre, Frías, García Ros, & Moreno, 1993).

The assessment of depression in adults has also been the object of several studies (Senra & Polaino, 1993; Senra & Polaino, 1998). Working with patients who have major depression without psychotic symptoms, assessed before and after starting treatment, these studies have analyzed whether the discrepancies between the scales to evaluate symptomatology (e.g., the Beck Depression Inventory vs. the Hamilton Scale) are due to content differences in the instruments (e.g., more or less emphasis on cognitive vs. somatic symptoms) or to the different way of administering the tests (self-report vs. other-rating).

Similarly to children's depression, research on the assessment of social skills has led to the development of original instruments in Spanish. This research has been concerned preferentially with relations between the various methods to assess social skills (interview, questionnaire, self-report, behavioral measures) within the framework of simulated situations, and the relation between behavioral assessment based on the quality of social molar behaviors versus that based on the quantity of nonverbal molecular elements (Caballo, 1995). From their results, various instruments to assess social skills have been elaborated, among which is the "Sistema de Evaluación Conductual de las Habilidades Sociales" (SECHS, the System of Behavioral Assessment of Social Skills), the "Escala Multidimensional de Expresión Social - Parte Motora" (EMES-M; The Multidimensional Scale of Social Expression - Motor Part), and the "Escala Multidimensional de Expresión Social - Parte Cognitiva" (EMES-C; The Multidimensional Scale of Social Expression - Cognitive Part) (Caballo, 1993).

The assessment of learning potential has been the focus of a research trend that has also led to designing new

instruments. This trend centers on the validation of the learning potential construct and of a technique to assess it within the framework of cognitive modifiability programs. Thus, the capacity of these techniques (called Learning Potential Assessment) to predict skill improvement in individuals with intellectual deficits who participate in long-term interventions has been established (Fernández-Ballesteros & Calero, 1993), as well as their capacity to assess possible improvement brought about by systematic interventions in cognitive skills in individuals with pathologies involving loss or deterioration of these skills, mainly older people with or without dementia (Wiedl, Schöttke, & Calero, 2001).

Also new is the research program to formalize, computerize, and develop assessment procedures of personal constructs by means of the grid technique, with the aim of formulating clinical hypotheses (Feixas & Cornejo, 1996). This technique has been used to analyze various measures of cognitive structure, construction pattern of the self, content of personal constructs, and cognitive conflicts or personal dilemmas in clinical populations, such as persons with depression. Similarly, methods to analyze texts have been developed in order to understand the author's personal meaning in psychologically significant texts (diaries, autobiographical material, etc.) in terms of the author's own personal construction. Both methods, the grid technique and text analysis, have been applied to the study of the process of psychological change (Feixas & Villegas, 1991).

The elaboration and validation of a questionnaire, the "Inventario de Situaciones y Respuestas de Ansiedad" (Inventory of Situations and Responses of Anxiety), which measures anxiety from a neobehavioral and interactive perspective (with its corresponding distinctions of the three response systems and the different facets of anxiety), has been the object of another Spanish research team. This groups' studies during the 1989-1998 decade have focused on the validation of the questionnaire to distinguish different anxiety profiles associated, for example, with different anxiety disorders, and to extend its application, sometimes modifying the original format of the instrument, to evaluate anxiety in various contexts: drug addictions, blind people, individuals with essential hypertension, traffic situations, etc. (Cano Vindel, Miguel Tobal, González, & Iruarrizaga, 1994; Miguel Tobal & Cano Vindel, 1995).

In the area of adaptations to Spanish of international instruments of acknowledged prestige and use in the clinical field, the validation of Cattell's Clinical Analysis Questionnaire (CAQ) and of Reich, Shayka, and Taibleson's Diagnostic Interview for Children and Adolescents-Revised (DICA-R) are noteworthy.

The CAQ has been the object of an exhaustive adaptation and validation that includes studies with samples of adolescents and adults, clinical and nonclinical, that analyze the reliability, structure and discriminant validity of the instrument (Forns, Amador, Abad, & Martorell, 1998; Martorell de Balanzo, Amador Campos, & Forns i Santacana, 1994).

Structured diagnostic interviews have become the instruments of reference for research, especially epidemiological research, and their use has become generalized in the last few years. In the field of psychopathology in children and adolescents, Spanish researchers have carried out a series of adaptation studies of the DICA-R, an interview that follows the diagnostic criteria of the DSM-III-R with separate protocols for children (6- to 12-year-olds) and adolescents (13- to 17-year-olds), as well as a parallel protocol. The studies carried out have exhaustively analyzed the psychometric characteristics of the instrument, both in terms of reliability –inter-interviewers, test-retest, parent-children agreement– and of validity – agreement with the clinicians diagnosis, convergent and divergent validity with the psychopathological questionnaire Achenbach Child Behavior Checklist– (Ezpeleta, Osa, Domènech, Navarro, Losilla, & Judez, 1997; Ezpeleta, Osa, Domènech, Navarro, & Losilla, 1997). A computerized version of the interview has been created and currently the DICA-IV version, which follows the DMS-IV criteria, is being adapted.

In the USA, despite the fact that research from the psychoanalytical approach is not very extensive nor prominent compared with that by other approaches such as the cognitive, the behavioral, or the neuroscientific (Robins et al., 1999), except for the MMPI, the Rorschach test is still the personality assessment instrument that has generated the highest number of studies annually (Butcher & Rouse, 1996). In Spain, the situation is similar. In spite of the fact that the psychoanalytical approach is minority among university professors from the area (see Table 3), personality assessment by means of the Rorschach test is still the object of study of a great number of investigations. In fact, the PSICODOC98 database reports up to 94 articles related to the Rorschach test, the instrument that has the highest number of listed works, even more than the MMPI (36 articles).

Prominent among the Rorschach test research carried out by university professors from the area is the research trend that analyzes the complementary contribution of the projective plates to the psychodiagnostic plates of the Rorschach, as well as the validity of several indexes derived from both groups of plates, such as responses to the color red or the Neiger reality index (Jiménez Gómez, 1992; Jiménez Gómez, de Diego Vallejo, & Sánchez Crespo, 1994).

The last Spanish research trend on clinical psychological assessment detected during the 1989-1998 period is about assessment of social-problem-solving skills, based on the model of the same name proposed by D'Zurilla and his research group. In collaboration with this group, several factorial studies have been carried out to contrast the construct validity of the instruments used formerly to assess various components of the cognitive-affective-behavioral process by which a person identifies the effective means to solve everyday life conflicts. Particularly, these studies have examined the Social Problem-Solving Inventory (Maydeu Olivares & D'Zurilla, 1995), developing a revised version that presents

a more coherent theoretical structure that differentiates between two types of problem orientation (positive and negative) and three problem-solving styles (rational-systematic, impulsive-careless, and avoidant), a structure that has also been validated subsequently in terms of its mediating role in everyday conflict situations and the experience of anxiety and depression (Kant, D'Zurilla, & Maydeu Olivares, 1997).

Psychological Treatment and Intervention

Spanish research on psychological treatments and intervention in the clinical area is threefold and coincides with the most important issues of international clinical psychology in this field.

Efficacy of Psychological Treatments. The largest number of research programs on psychological treatments, among those developed between 1989-1998 by Spanish university professors, share current priority given to attempts to prove the efficacy of therapeutic procedures. This priority emerged in Eysenck's pioneer works in the early fifties, but it re-emerged strongly 10 to 15 years ago at least within two contexts. On the one hand, national health organisms of the USA and Europe became concerned with improving the quality and cost-effectiveness relationship of health-care systems. On the other hand, several professional and research societies became concerned with improving the teaching and practice of Medicine and Psychology, as can be seen by the appearance of evidence-based medicine or the creation in 1993 of a Committee in the 12th Division of the American Psychological Association (dedicated to Clinical Psychology), whose aim was to determine the efficacy of psychological treatments for specific clinical disorders and to promote and disseminate these treatments.

Using the methodology that has characterized research on efficacy of psychological treatments since the eighties, that is, meta-analysis, a series of systematic meta-analytical studies have been carried out on the efficacy of cognitive-behavioral techniques in Spain for a great variety of problems: anxiety disorders, enuresis, psychopathy, diabetes, and tobacco addiction (Rosa Alcázar, Sánchez Meca, Olivares Rodríguez, & Marín Martínez, 1998; Sánchez Meca, Olivares Rodríguez, & Rosa Alcázar, 1998).

On the other hand, there are several research programs aimed at evaluating specific treatments, mainly cognitive-behavioral ones, for specific problems.

1. Anxiety Disorders. Cognitive-behavioral treatment has become the preferred therapeutic alternative for the disorder of agoraphobia/panic disorder. A research group has shown that self-exposure treatment is probably the most powerful treatment of agoraphobia, and that personality variables are irrelevant as predictors of therapeutic success (Echeburúa & Corral, 1998; Echeburúa, De Corral, García Bajos, & Borda, 1993). In order to carry out these studies, this research

group has created a specific assessment instrument—the only one in Spanish—to evaluate agoraphobia, which initially has adequate psychometric properties.

However, despite the proven efficacy of cognitive-behavioral therapies in treatment of agoraphobia/panic, there are still many aspects to be addressed and that have been the object of study of other research teams. Some of these issues are: determination of the variables that modulate therapeutic efficacy, study of the differential efficacy of each therapeutic component, study of the role of safety seeking behaviors in maintaining the disorder, analysis of the effect of medication during cognitive-behavioral treatment, and study of how to reduce the amount of contact between patient and therapist (Botella Arbona & Ballester Arnal, 1993; Botella & García-Palacios, 1999).

Preparation of intervention programs for the treatment of social phobia has been another priority of Spanish clinical research in the last few years. The studies in this field have presented data that suggest that the cognitive approach does not foster the effect of exposure therapy in the treatment of social phobia, that self-help manuals do not provide additional benefit to programmed therapy, and that the main predictors of therapeutic failure are low expectancies of change, high levels of anxiety and fear of criticism, and low self-esteem (Salaberría Irizar & Echeburúa Odriozola, 1996; Salaberría & Echeburúa, 1998).

Research on treatment of anxiety disorders has also studied specific phobias such as hematophobia. Thus, in the last few years, a research program has been developed with the aim of determining the differential efficacy of a treatment that combines in vivo exposure technique with Öst's applied tension technique in comparison with a treatment based exclusively on in vivo exposure technique (Borda, Barcia, & Blanco, 1997; Borda, Martínez, & Blanco Picabia, 1998).

A series of studies on cognitive-behavioral treatment of posttraumatic stress disorder have been carried out, specifically, with victims of sexual aggression. These studies have not only revealed the short-term efficacy of this treatment, but also the long-term maintenance of the positive results, with almost no relapses (Echeburúa, de Corral, Sarasua, & Zubizarreta, 1996b; Echeburúa, de Corral, Zubizarreta, & Sarasua, 1997). In addition, these studies highlight two facts: the severe psychological impact of rape victims, revealed especially in the emergence of posttraumatic stress, generalized fears, depression, and loss of erotic desire, and the absence of significant psychopathological differences between adult victims of sexual aggression and adult victims of previous childhood sexual abuse.

2. Other disorders. Other research programs on psychological treatment of specific disorders are aimed principally at treatment of slot-machine-players with problems of pathological gambling, of individuals with body-image disorders, of persons with Down's syndrome, and individuals with schizophrenia.

The principal results of the studies on treatment of pathological gambling associated with slot-machines suggest that: (a) stimulus control and exposure with response prevention, in an individual format, are an efficacious therapeutic strategy for this problem and, possibly, one of the most significant treatment alternatives for this pathology, and (b) dissatisfaction with treatment, duration of the dependency, and neuroticism are the best predictors of relapse after application of this therapeutic strategy (Echeburúa, Báez, & Fernández Montalvo, 1996a; Echeburúa, Fernández-Montalvo, & Báez, 1999). This research program has also elaborated and validated an instrument to detect pathological gambling at an early phase—the first one in Spanish—, and has identified and analyzed pathological gamblers' cognitive errors.

A negative body image causes many people great concern, and has an important relation with the development of eating disorders, and, in some cases, may constitute a body dysmorphic disorder. Spanish researchers have validated body-image disorder assessment and intervention instruments of promising efficacy (Raich, Mora, Marroquín, Pulido, & Soler, 1997a; Raich, Soler, & Mora, 1995).

Training parents in early stimulation techniques for children with Down's syndrome has been the center of interest of a research trend that has evaluated the effectiveness of various training methods and the factors that influence their efficacy (Sanz Aparicio & Menéndez Balaña, 1992; Sanz, 1996b).

The efficacy of various psychosocial intervention modalities for schizophrenia has been examined, for example, psychoeducation, as well as the variables that predict efficacy (Cañive et al., 1996; Cañive et al., 1995). Similarly, this research team has developed and applied cognitive rehabilitation strategies for people with schizophrenia, mainly with relation to their attention disorders.

New Psychological Treatments and Intervention. A second direction in research on psychological treatments is the development of new therapeutic alternatives. There are several studies on virtual reality, a new interface for person-computer interaction that has great influence on the field of health sciences and whose use is of special interest in the area of clinical psychology. The efficacy of this new tool in the assessment and treatment of various psychological disorders has been established. A Spanish research group has developed and tested the efficacy of various computer programs to evaluate and treat claustrophobia, body image in eating-disorder patients, and flying phobia, and they are currently developing a program to treat agoraphobia (Botella et al., 1998; Botella, Villa, Baños, Perpiñá, & García-Palacios, 2000).

Along this same innovative therapeutic line are the works on linguistic evaluation therapy. This is a new cognitive therapy, based on the general semantic theory and on a model linking emotional problems to the use of language. Linguistic evaluation therapy presents notable differences regarding constructivist and rational-cognitive therapies (e.g., Beck's

cognitive therapy), and there are data about its efficacy in anxiety and depression problems (Caro, 1996; Caro, 1997).

Three new techniques or therapies have been developed by a group of Spanish researchers within the context of waking hypnosis; emotional self-regulation therapy, vigilance-alert hypnosis (or alert hand), and fast self-hypnosis (Capafons, 1999b). With these methods, suggestion is used as an adjunct to cognitive-behavioral treatments, from a novel perspective in the field of hypnosis: They attempt to improve efficiency and dissemination of hypnotic suggestion and, hence, efficiency of treatments that include hypnotic suggestion. For that purpose, a hypnotic evaluation and intervention model was generated, in which are provided various ways to evaluate hypnotic capacity, present hypnosis, several induction methods, and ways to make suggestions without appealing to the concept of trance, having the client keep his or her eyes open, remaining active, and maintaining a firm sense of self-control. The various empirically based applications of waking hypnosis (essentially, emotional self-regulation therapy) include tobacco addiction, obesity, dysmenorrhea, and flying phobia, although reduction of smoking and flying phobia have received the most empirical support (Capafons, 1999a).

The last research program aimed at the development of new psychological treatments has led to the design of assessment and intervention methods with families, inspired in the concepts and methods of Kelly's personal construct theory. This theory helps understand the process of individual change and, in conjunction with the change of family constructs, it proposes various change mechanisms and articulates a series of intervention procedures as a function of each mechanism described (Feixas & Villegas, 2000), in addition to providing methodological instruments to evaluate family constructs (Feixas, 1995).

Therapeutic Process. A third research course in the clinical area of psychological treatments is made up of recent attempts to study the therapeutic process per se. Along this line, works focusing on verbal interaction processes in therapy are noteworthy. Based on Stiles' taxonomy of verbal response modes, these studies have examined whether patients and therapists interact and maintain different relation patterns as a function of their therapeutic evolution, and whether there are differences in therapists' verbal directiveness that are associated with cultural differences, as is reflected in the use of different verbal expressions specific to each language (Caro & Coscollá, 1997; Caro & Stiles, 1997).

Health Psychology

Etiology and Explanatory Models

I identified seven research trends specifically focused on causal factors related to physical illness and health conditions, which make up the priority object of health psychology.

Comprehensibly, the majority of these trends examine those illnesses that are the primary cause of death in Spain and in the rest of the developed countries: cardiovascular disorders and cancer.

Thus, the first two research trends have examined Type A behavior pattern as a risk factor for coronary disorders. One of them (Bretaña, Bermúdez, Ardua, & Serrano, 1996; Sánchez Elvira, Bermúdez, & Pérez, 1990) has mainly examined which Type A components are more directly involved in the etiology of cardiovascular alterations (e.g., competitiveness, impatience) and the psychological mechanisms by which they develop (e.g., family factors, attributional style) and lead to coronary illness (e.g., differences in the perception of internal emotional and physiological states). The other trend has centered especially on the physiological mechanisms that explain Type A persons' susceptibility to coronary disorders, specifically, higher cardiovascular reactivity in stressful situations (Palmero, Brea, & Espinosa, 1994; Palmero, Codina, & Rosel, 1993).

On the other hand, a third research trend focuses on the possible predictive value of the way cancer patients initially evaluate and cope with their illness on their quality of life in the future, having found that patients' fighting spirit and denial of the illness are associated with better psychosocial results, whereas helplessness, hopelessness, fatalism, and initial anxious concern are associated with more distress, concurrently and in the future (Ferrero Berlanga, Toledo Aliaga, & Barreto Martín, 1995; Ferrero, Barreto, & Toledo, 1994).

Similarly, other Spanish researchers have approached the factors that determine the quality of life of patients who receive cancer treatment, directing their efforts on variables such as self-efficacy, perceived changes in the state of health, negative thoughts, or anxiety (Blasco & Inglés, 1997; Blasco & Villamarín Cid, 1993).

A fifth research trend has focused on personality co-determinants of chronic illnesses and has produced a series of investigations on persons suffering from diabetes, hypertension, various nephropathies, or cancer, and who were studied for five years in some cases. The results of these studies indicate that the models that propose specific personality patterns for each illness (e.g., Type A or Type C personality) do not receive empirical support and that, on the other hand, a multidimensional approach, based on the differential psychology of the chronic physically ill individual, is preferable (Pelechano, Matud, & de Miguel, 1993; Pelechano, Matud, & De Miguel, 1994b).

The remaining two research trends are removed from the psychosocial perspective and are closer to a psychophysiological approach. Both trends address psychophysiological reactivity mechanisms in stressful situations, which could explain the relation between behavior and physical illness and, therefore, the studies belong to the field of psychophysiological contributions to health psychology. One of them has investigated the cardiac defense response, a phasic heart-rate response pattern that is evoked

by intense auditory stimuli and could underlie cardiovascular reactivity to environmental stressors. The research carried out has shown, among other things, that there are individual and sex differences in the cardiac response pattern that persist over time, and that this pattern is related to motivational factors in active coping situations, attentional factors, and personality variables, such as Type A behavior pattern, which predispose persons to coronary disorders (Pérez Marfil, Fernández Santaella, García León, Turpin, & Vila Castellar, 1998; Vila, Fernández, & Godoy, 1992).

A second psychophysiology-related trend studies the stressing capacity of various physical events and their effect on health. Specifically, a series of studies has evaluated the impact of traffic noise both on psychological and psychophysiological aspects, as well as the mediating role of negative perceptions of noise in the responses to it. Noise has been found to increase levels of anxiety, blood pressure, heart rate, and frontal muscular tension, and habituation to noise concerning these psychophysiological variables is negligible, which might explain the stressful and deteriorating effects of noisy environments on health (Vera, Vila, & Godoy, 1991). On the other hand, the psychological (anxiety state) and psychophysiological effects of noise increase when negative self-statements are used (e.g., "I can't stand this noise"), so that the impact of traffic noise is mediated by the person's subjective perception of it (Vera, Vila, & Godoy, 1992).

Assessment and Diagnosis

Quality of life has become a key concept in health psychology as a consequence of its goal of contributing to the promotion of health and the prevention of illness. No wonder that a large number of studies are dedicated to the evaluation of this multidimensional construct, either at a general level, or at a specific level with regard to concrete health problems (e.g., spine deformities, coronary disease) or specific populations (e.g., older people). On the other hand, the studies are aimed both at the adaptation of quality of life instruments of extensive and international use (e.g., the Health Assessment Questionnaire: Esteve Vives, Batlle Gualda, & Reig, 1993) and the elaboration and validation of new instruments (e.g., the Quality of Life Profile for Spine Deformities: Climent, Reig, Sánchez, & Roda, 1995).

The assessment of Type A behavior pattern has also aroused interest among our researchers. A research trend has focused on the analysis of the psychometric properties of instruments to measure this behavior pattern derived from Friedman and Rosenman's works (Structured Interview, Jenkins Activity Survey, Bortner Adjective Rating Scale, and Framingham Type A Scale), and, especially, their construct validity to isolate the components clearly related to coronary disease. The ultimate goal of this trend is to propose a measurement model of risk factors of coronary disease, based on the components of these instruments (Pino, Dorta, & Gaos, 1993; Pino, Gaos, & Dorta, 1999).

In Spain, as in many other developed countries, a large amount of illnesses and causes of death are closely related to behavior patterns and unhealthy habits such as overeating, unbalanced diets, lack of physical exercise, alcohol abuse, and smoking. Spanish research on smoking has been especially intense in the last few years, both in the intervention and in the assessment areas. Regarding assessment, the most frequently used instruments, at an international level, to evaluate nicotine dependence have been adapted and validated: the Tolerance Questionnaire by Fagerström, and its more recent and psychometrically improved version, the Fagerström Test for Nicotine Dependence (Becoña & Vázquez, 1998a). At the same time, research is being carried out on the concordance between self-report (self-report of cigarette consumption) and physiological measures (level of carbon monoxide in expired air) of the habit of smoking (Becoña & Vázquez, 1998b), as well as other constructs related to smoking habit, its prevention and treatment (e.g., smokers' self-efficacy).

Another health problem related to the development and industrialization of countries is asthma, the incidence and severity of which, particularly children's asthma, has increased in the last decades, partially because of nutrition changes, increased pollution, and the appearance of new potentially allergenic products. To evaluate this problem, a research group has adapted and validated several instruments to measure the symptomatology that appears during an asthma attack, the behavior and life styles that facilitate the attacks, their consequences in terms of quality of life, and the remaining behaviors and habits associated with bronchial asthma, for example, patients' self-care (Belloch, Perpiñá, Pascual, de Diego, & Creer, 1997; Perpiñá et al., 1998b).

Reference is made above to the Spanish research program working on the cardiac defense response as an index of cardiovascular reactivity to stress. This has been promoted by another parallel and coordinated program, centered on the assessment of psychophysiology-related aspects of cardio-respiratory coordination and on measures related to parasympathetic cardiac activity (respiratory sinus arrhythmia and baroreceptor reflex sensitivity), measurements that have allowed researchers to evaluate more precisely the physiological consequences of the cardiac defense response to stressful mental tasks (Reyes del Paso, Godoy, & Vila, 1993; Reyes del Paso, Langewitz, Robles, & Pérez, 1996).

Health Intervention

Health Promotion. Health promotion makes reference to the fact that people and communities acquire and maintain healthy behaviors and habits that increase the individual's functional, physical, psychological, and social abilities. Spanish health psychologists have elaborated and evaluated programs that directly or indirectly involve promotion of optimal vital physical, mental, and social state of the person and the community. Along these lines are included the works

on attitudes that facilitate or hinder organ donation, and other factors associated with the nonappearance of this kind of altruist behavior (e.g., depressed mood, extrinsic religiosity, fear of death). These works have helped to develop specific intervention programs to promote organ donation, aimed both at patients' family members and at health personnel (Blanco Picabia, Pérez San Gregorio, Murillo Cabezas, & Domínguez Roldán, 1994; Lozano Oyola & Blanco Picabia, 1995).

The importance of changing attitudes to promote health is also acknowledged in the research trend that has been developed concerning educational and social integration of blind persons. This trend is aimed at the assessment of attitudes towards integration and the development of training programs to change attitudes, evaluating both the short-term success of the programs and their differential consolidation as a function of age, and other co-determinants of their efficacy (Pelechano, 1999; Pelechano, García, & Hernández, 1994a).

Studies have also been carried out on the assessment and development of social skills with persons with disabilities, the implementation of professional training and employment programs for these individuals (Verdugo, Jenaro, & Arias, 1998), and the mistreatment (abuse and abandon) that this kind of population sometimes suffers (Verdugo & Bermejo, 1997).

Prevention of Illness. Spanish health psychology has also contributed in the area of prevention of illness, in which three trends are noteworthy. The first is aimed at specific prevention of breast cancer, within which were analyzed the psychosocial determining factors of the practice of mammary self-exploration (Dura, Galdón, & Andreu, 1993; Galdón, Andreu, & Dura, 1997), finding, for example, that the variables that predict the presence or absence of this practice (e.g., conviction of being sick, cost-benefit relationship) are not the same as those that predict its frequency (e.g., perceived health threat).

The second trend addresses prevention of tobacco-related illnesses. In this sense, a cognitive-behavioral program to cease smoking was developed, in which, to date, up to 4,000 smokers have participated, and whose efficacy has been extensively assessed and proven, also allowing the analysis of biopsychosocial factors related to abstinence, relapse, and remaining in treatment to cease smoking (Becoña & García, 1993; Becoña & Vázquez, 1997).

A third research trend is about sexual behaviors related to prevention and risk of infection by AIDS, an illness that, comprehensively, has awakened more interest in prevention among Spanish researchers from the area. In a series of studies, carried out with various populations considered at risk (university students and intravenous drug addicts), special attention was paid to the role of two variables in initiating and maintaining either risky or preventive sexual behaviors concerning AIDS: (a) the immediate consequences derived from these behaviors, and (b) personal cognitions about perceived vulnerability of being infected by AIDS

(Planes, 1994; Planes Pedra, 1993). The studies of another Spanish research group have also examined the perception of risk of infection by AIDS in various populations, for example, assiduous sports practitioners or university students, as well as analyzing the relation between the level of information, the degree of concern or fear, and the presence of discriminatory behavior towards persons who suffer from AIDS (Bayés, Comellas, Lorente, & Viladrich, 1998; Bayés, Pastells, & Tuldra, 1995).

Intervention in Illness. As could be expected because of the strong link with clinical and health psychology in Spain, the health psychology research area that has generated more studies is intervention in medical diseases, and, particularly, the area of direct intervention with patients who suffer from those illnesses.

As with the field of psychological treatments of mental disorders, the interventions developed for medical diseases are based almost exclusively on cognitive-behavioral approaches, although, in this case, the interventions do not concentrate on one group of problems (e.g., anxiety disorders) but a greater variety of problems.

At least two research programs concerning children's bronchial asthma have been developed with the aim of studying the influence of psychological factors in the course of the illness, designing useful cognitive-behavioral intervention procedures, empirically contrasting their efficacy to improve several relevant dependent variables, and identifying patients' personal characteristics that may affect efficacy (Benedito, Botella, & Martorell, 1993; Benedito Monleón, Martorell Aragonés, & Botella Arbona, 1993; Vázquez & Buceta, 1993a; Vázquez & Buceta, 1993b). The results in some of these studies seem to support the usefulness of therapeutic relaxation and self-control programs, the former mainly with patients who present emotional precipitants of asthma attacks, and the latter especially with patients who show deficit in self-care behavior and or inadequate cognitions about their illness.

Another research trend about psychological treatment of medical diseases is derived from the development of a general framework of the effect of stress and its relation on psychophysiological disorders. This model highlights the fact that these disorders are produced by the way people cope with their environment, for example, because of individual differences in initial automatic processing of the requirements of the environment. Keeping this in mind, specific treatment programs were generated for migraine and essential hypertension, based on cognitive-behavioral techniques such as social problem-solving training or stress inoculation, and the efficacy of these programs was evaluated in various studies with clinical samples (García-Vera, Labrador, & Sanz, 1997; Labrador & Puente, 1999).

Essential hypertension has also been the object of another research program. This group has also tested the efficacy of cognitive-behavioral programs to control stress, in this

case, based on self-instructional training and relaxation training (Amigo, Buceta, Becoña, & Bueno, 1991). In addition, this research group has analyzed the problems involved in measuring blood pressure in clinical practice (e.g., the white-coat hypertension phenomenon; the influence of verbal instructions), and their implications for the treatment of essential hypertension (Amigo, Cuesta, Fernández, & González, 1993).

Research on dysmenorrhea from a cognitive-behavioral perspective has led to the proposal of an explanatory model of the disorder, the elaboration of a specific questionnaire to examine its prevalence, and the design of a preventive and palliative intervention. Among other components, the intervention includes relaxation training and techniques to control attention, presenting encouraging results in the reduction of menstrual pain (Larroy, 1991, 1995).

Other studies are aimed at the elaboration and evaluation of the effects of a behaviorally oriented educational program for diabetes control, centered on treatment adherence and coping with stress. Because biological, psychological, and social conditions vary with age, three program versions have been created: one for children from birth until 8 years of age, which consists of training their parents; one for preadolescents between 9 and 12 years of age, which highlights transferring responsibility and social-skills training; and a third one for adolescents between 13 and 18 years of age, which pays special attention to training in glucose discrimination and in coping skills (Méndez & Beléndez, 1997; Olivares, Méndez, Bermejo, & Ros, 1997).

The relevance of psychosocial factors in the origin of myopia is revealed, for example, in the epidemiological studies carried out by a research group whose data reveals that in Spain as in other developed countries, the prevalence of myopia is linked to living in urban environments, working at short distances, and the level of studies. Based on these results, this research group has developed treatment techniques to reduce the degree of myopia by training the accommodative system and by following visual hygiene rules, techniques that are related to the development of a model of the onset of myopia from a health psychology perspective (Gismera Neuberger & Santacreu, 1997; Guio & Santacreu, 1992).

Spanish researchers from the area have also contributed to the development of intervention procedures to reduce the stressful impact of hospitalization and surgery. At least two groups work along these lines. The first group has elaborated and evaluated the effect of three programs of psychological preparation for children's and adolescents' (between 7 and 14 years of age) hospitalization and or surgery. The first program is based on coping-skills training, and the other two on filmed modeling (videotape or interactive CD-ROM). All these programs focus both on the psychological pre-surgery state (for which two instruments were elaborated and validated: the "Cuestionario de Preocupaciones sobre Cirugía para Niños" [Children's Worries about Surgery Questionnaire]—from 7 to 10 years— and the "Cuestionario

de Preocupaciones sobre Cirugía para Adolescentes" [Adolescents' Worries about Surgery Questionnaire]—from 11 to 14 years) and on post-surgery recovery (Ortigosa, Méndez, & Sánchez-Meca, 2000; Quiles, Ortigosa, Méndez, & Pedroche, 1999). The second research group has studied the influence of pre-surgery anxiety on post-surgery recovery and has contrasted various audiovisual and multidimensional interventions aimed at reducing anxiety (Moix, Bassets, & Caelles, 1998; Moix Queraltó, 1995).

Clinical Gerontology

A specific field in which two very fruitful research trends have developed is assessment of and intervention with older people. The first research trend comprehends studies, carried out in various gerontological settings (residences for independent and assisted people, day centers, clubs, and homes for retired people), which include the assessment of gerontological programs, residences for older people, and other relevant characteristics of old age, as well as intervention programs aimed at improving the skills that deteriorate in older people. Thus, a "Sistema de Evaluación de Residencias de Ancianos" (SERA; System to Evaluate Residences for Older People) has been developed to evaluate health services and programs, and establish the influence of environmental and social variables on inmates' health, functional skills, and level of activity (Fernández-Ballesteros, Montorio, & Izal Fernández de Trocóniz, 1998). Intervention programs to improve intellectual skills (for example, memory, inductive reasoning, spatial orientation) and everyday skills in older people have also been developed. For this purpose, techniques were created to evaluate intellectual plasticity (learning and rehabilitation potential) in order to test the improvements caused by these interventions (Fernández-Ballesteros & Calero, 1995). All this culminates in research in Europe on aging, comparing various ways of aging in different countries of the European Union (Schroots, Fernández-Ballesteros, & Rudinger, 1999).

A second research trend has focused on the study of interpersonal problem-solving skills in older people, and, based on this, has created instruments to evaluate these dimensions and has developed intervention programs aimed at increasing human potential and satisfaction with life, and improving older people's personal and social adaptation (Pelechano, 1991, 1996).

Conclusions

The results presented above regarding Spanish scientific productivity in the area of clinical and health psychology reveal that this productivity has undergone a marked increase during the 1989-1998 period, especially at the level of international dissemination. This implies a greater number

of works published, especially empirical studies, and a greater number of articles published in English-language journals and in known-impact journals. Although it would be preferable to have information about scientific productivity prior to 1989 in order to trust the validity of these conclusions, it is nevertheless interesting to note that this increase coincides with some substantial changes in Spanish economical and university policy in the lately 1980s and early 1990s related to an increase in the national budget for research, an increase in the number of professors who obtain a permanent seat in the university, and the application of retributive complements for research activity.

Despite the increase in Spanish scientific production in clinical and health psychology, it should not be forgotten that, in many of its bibliometrical indicators, it still maintains a model of linear growth or, at least, not clearly exponential growth (Price, 1963). Moreover, that increase decelerated in the mid years of the period under study, just when the Spanish national expenditure in scientific research also decelerated its ascending evolution and became stable at quantities are still far below the expenditure for research made by other countries of the European Union or by the USA. On the other hand, the increase in the dissemination and international impact of Spanish studies in clinical and health psychology should not disguise the fact that most of the scientific production (73%) is still published in Spanish and in journals edited in Spain, which is an evident obstacle for the studies to reach the majority of the scientific community, which uses the English language as its means of communication.

Concerning the topic evolution of Spanish scientific production in the psychological areas analyzed in this study, it seems to follow certain patterns that, to a great extent, respond to the evolution of psychology at an international level: predominance of applied over basic studies, of empirical over theoretical research, of the cognitive-behavioral approach over the rest of the theoretical orientations. Similarly, the increase in research in health psychology and in the evaluation of the efficacy of interventions are two characteristics of international clinical and health psychology that can also be observed in Spain.

This portrait of Spanish research in clinical and health psychology has its limitations. Of course, some of the limitations concern the databases, search procedures, and bibliometrical indicators that were employed, all of which pose their own problems, but to which, nevertheless, there seem to be no clear alternatives in specialized literature (Camí, 1997; López Piñero & Terrada, 1992). A more significant issue has to do with the exclusion from this study of a large amount of research carried out by psychologists who practice their profession in hospitals, health centers, private offices, or organisms other than the University (unless they collaborate with university professors working in the area). However, this limitation does not appear to affect the results and the conclusions

presented herewith to a great extent, because the research carried out by university professors represents the largest percentage of Spanish research in clinical and health psychology. Various indexes support this statement. On the one hand, studies on scientific productivity carried out in the ISOC database, a multidisciplinary database in Social and Human Sciences (including Psychology) created by the Consejo Superior de Investigaciones Científicas [High Council of Scientific Research], which lists all articles published in specialized journals edited in Spain since 1976, reveals that the University is the organism with the greatest number of published studies, and only 22% of these works proceed from other organisms or private institutions (CINDOC, 1998). On the other hand, focusing on the area of clinical and health psychology, an analysis was made of the affiliation of the first author of the works published in the Spanish psychology journal that published the greatest number of articles on clinical and health psychology during the 1986-1997 period, according to a bibliometrical analysis of the ISOC database (Alcaín Partearroyo y Ruíz-Gálvez Papí, 1998). This journal was "Análisis y Modificación de Conducta" [Behavior Analysis and Modification], which is also the most important journal in the area according to the analyses of the scientific production of university professors presented herein. Of the 540 articles of "Análisis y Modificación de Conducta" listed in PSICODOC98, 486 provided the first author's affiliation, and 90% of them were from the University, and only 6.9% were from hospitals, health centers, private practice, and other organisms, or private or public institutions (the rest of the articles corresponded to foreign first authors). Given that the founder and current editor of "Análisis y Modificación de Conducta" is a full professor of the area, the journal could be biased in favor of publishing works from the university setting. Therefore, the same aforementioned analysis was carried out with the works published in "Clínica y Salud" [Clinic and Health], the only specialized journal from the area of clinical and health psychology edited by the Colegio Oficial de Psicólogos [COP: The Spanish Psychological Association] and that, therefore, could be biased in favor of publishing works by professionals who are not from the University, because, in fact, the immense majority of the COP affiliates are not university professors (these latter can be estimated at between 2.7% and 6% of the affiliates according to data from the COP of Madrid [1998] and from Camarero and Ferrezuelo [1988], respectively). Of the 161 articles published by "Clínica y Salud" listed in PSICODOC98, 134 included the first author's affiliation and, of these, 58.9% were from the University. Therefore, it can be concluded that between 60% and 90% of Spanish research in clinical and health psychology is carried out by university professors and that, consequently, the sample of research works presented here is an adequate representation.

Summing up, in this article, an attempt was made to present the principal Spanish research trends in clinical and health psychology during the 1989-1998 decade, and to point out that such research has increased significantly during this interval, especially with regard to its international dissemination. Along with Ibáñez and Belloch's (1989, p. 43) apt statement, one could say that research in clinical and health psychology in Spain, "enjoys not only excellent mental health, but excellent physical health as well," which, fortunately, is ever more evident, not only to Spaniards, but also to the international scientific community.

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