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## *Editorial*

### *New Trends in Clinical and Child-Juvenile Health Psychology*

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Since the 1980s, the study of psychopathological disorders that start in childhood or adolescence (Child and Juvenile Clinical Psychology), and its putting into practice within the non-psychiatric health context (Child and Juvenile Health Psychology or Pediatric Psychology), has been an area subject to continuous development within the Personality, and the Psychological Assessment and Treatment Area of the University of Sevilla, as well as other teaching and health centers.

In our case, this has been possible thanks to the cooperation between the Social Pediatrics Unit of the University Children's Hospital "Virgen del Rocío" and our department, which was later formalized in 1994 with the signature of a cooperation agreement between the University of Sevilla and the "Consejería de Salud de la Junta de Andalucía" and the creation of the "Integral Pediatrics and Pediatric Psychology" Research Group (Gómez de Terreros, 2002).

During the last few decades, a number of research areas have been developed as a result of this cooperation. Within these research areas, doctoral theses, publications, presentations at national and international congresses, research projects financed by different public institutions, etc. were all produced.

The child and juvenile populations studied within this context have one thing in common: the need for specific psychological support, which is an unquestionable part of the now-obsolete *integral assistance for children and their families*. We focus on children and adolescents with asthma, allergies, attention deficits and hyperactivity, congenital cardiopathies, diabetes, epilepsy, rare or uncommon diseases (with special attention on dysmorphologies), spina bifida, phenylketonuria, other congenital metabolism defects; cystic fibrosis, lymphoblastic leukemia, and other oncological problems, high neurosensorial risk newborns (e.g. premature babies), Down syndrome, eating disorders, or HIV infection, among others.

From different perspectives, theoretical and methodological models have been developed, but always with the aim of providing answers to the needs presented by each specialized service or unit. The list of issues addressed over the years has been just as long. Thus, in the past, emphasis was placed on the study of quality of life, the diagnosis of difficulties/deficits (regarding school, intellectual function, behavior or socialization), and the discovery of psychopathological alterations in parents or the preparation for hospitalization and surgery. More recently, the focus of attention has been on studying the relationship between parents and professionals, especially development, adherence to treatment (for instance, of child and adolescents infected by HIV, spina bifida and metabolopathies), the influence of pharmacological treatments on behavior and academic performance, or on the in-depth study of clinical practice and the relationship between professionals. However, we are not content with these findings, because there is still much to be done for the benefit of these populations, for example, in relation to palliative care, e-health, positive psychology, and the identification of the child and juvenile factors of vulnerability to stress, and especially the coordination among the professionals, the services and the institutions focused on children.

We are proud of taking this as our departure point and we have verified that chronic health problems in the child-juvenile period have only increased as mortality diminishes and morbidity rises, mainly in the developed countries (García Rodríguez, Gallardo, Goya and Vázquez, 2002). As a result, at the beginning of this volume we present a strict analysis of the *ten most outstanding references in Child-Juvenile Health Psychology*, as presented by professors Montserrat Gómez de Terreros, José Francisco Lozano and M. Carmen Núñez. This text may supplement the recent paper published at the end of 2009 in the journal *Clínica y Salud* (volume 20, No. 3), entitled *Actualidad en Clínica de Niños y Adolescentes* (Current Child and Adolescent Clinical Medicine), which is coordinated by Margarita Aznar Bolaño.

We consider that the authors were correct in directing their effort towards Child-Juvenile Health Psychology, which has been considered secondary at both the university level and in applied contexts. Unfortunately, in spite of the needs repeatedly expressed by health professionals, who cannot meet the numerous demands of their users, we currently find that very few psychologists are on staff at children's hospitals, which makes us wonder about some of the most important rights of children suffering from illness.

This sixth volume also includes two contributions in Health Psychology, the first of which addresses child burns and are presented by researcher Gracia Delgado and Professor Inmaculada Moreno. In this theoretical review, the authors state that hyperactivity, attention deficits, irritability and anxiety are the main premorbid conditions involved in this kind of accidents, thus providing guidelines on how to prevent them. They also allude to the psychological impact that burn-related injuries may cause the child, and how they affect variables such as family adjustment and educational guidelines. The second contribution, which focuses on different groups of *children and adolescents with chronic diseases*, is a research paper, the result of an extensive cooperation with the Allergology Unit of the University Children's Hospital "Virgen del Rocío de Sevilla". Its authors, professors Eva Rubio, María Angeles Pérez San Gregorio, José Conde and Alfonso Blanco, find that difficulties related to adherence to treatment, the social response and the family consequences are more attributable to chronicity than to a specific medical pathology.

In this issue, a separate chapter is devoted to the subject of *violence among adolescents and young people*, which is based on two studies that are currently of great interest. In both cases, prevention is a main theme, along with the impact on the health of every person involved, and the invitation to reflect on why violence occurs in these population groups. The first study was conducted by professor Maite Garaigordobil, who has extensive experience in designing and applying violence prevention programs at different stages of childhood and youth. We consider that the professor's viewpoint constitutes an important contribution to seven factors of socio-emotional development, as seen by the positive results of the young people involved in the program. These factors are communication, social behavior, emotions, violence, conflict resolution, prosocial values-human rights, and psychological welfare.

The second study was presented by the working group of Professor Luis Rodríguez Franco. The group was comprised of professors from the Universities of Sevilla and Oviedo, and the cooperation of Cristina Estrada, from the University of Guadalajara (Mexico). Data from 5,170 children and adolescents who attend school in Spain, Mexico and Argentina, provide a valid assessment tool for studying dating violence. This is a very important subject today, because it focuses on the prelude to violence within the family. Tools such as this one are thus the first step to allow us to detect the needs of this population and thus develop effective intervention programs.

Finally, for the present and the future of all children and adolescents with special health needs — considering health in its broadest sense (WHO, 2009)—, we hope that quality research will continue to be done. The aim of such research should always be to produce results that can be applied in practice, in contexts where the priority is on prevention or on delaying or minimizing what could be significant problems in the future. Furthermore, it is our wish that research results will assist in the implementation of integral services for children, adolescents and their families.

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## **Ten noteworthy reviews on updates on *child and juvenile health psychology***

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### **INTRODUCTION**

According to the official website of Division 54 of the American Psychological Society, (APA onwards) Child and Juvenile Psychology or Pediatric psychology is *an integrated field of science and practice in which the principles of psychology are applied within the context of pediatric health. The field aims to promote the health and development of children, adolescents, and their families through use of evidence-based methods. Founded in 1969, the field has broad interdisciplinary theoretical underpinnings and draws from clinical, developmental, social, cognitive, behavioral, counselling, community and school psychology. Areas of expertise within the field include, but are not limited to: psychosocial, developmental and contextual factors contributing to the aetiology, the course and outcome of pediatric medical conditions; assessment and treatment of behavioral and emotional concomitants of illness, injury, and developmental disorders; prevention of illness and injury; promotion of health and health-related behaviours; education, training and education of psychologists and providers of medical care; improvement of health care delivery systems and advocacy for public policy that serves the needs of children, adolescents, and their families.*

From our point of view, the difference in names between the *Pediatric Psychology* or *Child and Juvenile Health* is not too relevant. The former may actually be more often used in Anglo-Saxon countries and the latter in other countries. However, this seems to be changing, as the APA itself has included the Society of Pediatric Psychology as one more of its divisions. The first name can also be more often found in clinical environments and the second in university settings.

What we actually find relevant is advocating for the existence of this area of knowledge adjusted to childhood and adolescence due to the fact that child illnesses are different from those of adults and because the developmental changes in the emotional and cognitive reactions to health and illness need to count on a child health psychology different from the one for adults. In spite of the thematic overlapping, a different methodological approach is necessary in aspects such as types of illness affecting childhood, differences in the cognitive and emotional responses to the illness, and the involvement of the family, which is greater in these ages (Eiser and Main, 2001).

To our mind, training in Clinical Psychology makes it possible to meet the aims mentioned in the above definition, although approaches from Social Psychology or Developmental Psychology have also been made. For example, ill children and adolescents can be diagnosed by any of the categories in the mental disease classification systems. However, there are some categories which are often most helpful, such as the *psychological factors affecting the physical state, factitious disorders or failure to comply with the therapy*, which are not so usually diagnosed in child psychopathology. Consequently, as child health professionals, we need to pay special attention to performance variables such as psychosocial adjustment, family functioning or the functioning related to the illness. Therefore, we think that in order to identify, assess and treat these and other problems, training in Child Psychology in particular and in Clinical Psychology in general are suitable for successful treatment in health care and child and teenage illness, as focused from the biopsychosocial approach.

This article compiles ten reviews which we find most relevant in relation to this area of study. For this, we have followed two paths, first, the authors', teachers' and researchers' knowledge and experience, over a long period of time, in the subject matter. So the four first references are presented and they are the foundation article on the subject matter by Wright (1967) as are the three manuals that come later. The second compilation path is determined by a bibliographic search carried out on the two databases we believe to be the most important on health issues nowadays, namely *Scopus* and *The Journal Citation*

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*Reports.* Each of them makes the most cited references available by introducing some key words, *Pediatric Psychology* or *Health Psychology* and *child\** or *adolesc\**. A product of this second path, the article by Holmbeck (1997) is clearly the most cited one, actually more than twice as much as the next one, and is the first we review. The remaining reviews are either among the most cited works or relevant to this paper as long as they address cross-sectional issues in the discipline.

**Wright, L. (1967). The pediatric psychologist. A role model. *American Psychologist*, 22, 323-325.**

Logan Wright (1967) published in only three pages the article which is considered to be the foundation of Pediatric Psychology, entitled "The pediatric psychologist: a model to follow." The article picks up the proposal made by J. Kagan (1965) suggesting a 'marriage' between psychology and pediatrics, which had been made two years earlier. That was the time when the term 'pediatric psychology' was coined and defined as a discipline primarily dealing with children in a non psychiatric medical scenario (Wright, 1967). The proposal widened psychologists' usual work, which used to assess and treat some child and adolescent psychopathological disorders from the approach of clinical psychology. Thus, Wright suggested that the training of these professionals of pediatric psychology should be based on child development and clinical child psychology.

Another important characteristic of Wright's work is the fact that he detailed those areas which he argued should receive special attention from pediatric psychology. Thus, in the area of psychological assessment, professionals were asked to assess cognitive development more widely than the psychiatric world was used to doing. In the area of child upbringing, it was argued that they needed to be capable of responding to the behavioural, affective or interpersonal difficulties that might arise. This professional should be interested in the area of normal personality, positive mental health and in the prevention of emotional problems, and should also apply timely and financially effective methods, as the number of mental health professionals is not very high in comparison to those of so called 'physical' health.

Other contributions of the article made reference to clarifying the role of the pediatric psychologist and of valuing the training that he should have, which should be developed by means of affiliated clinical training programmes, residences and post-graduate university programmes. As we will see in the next references reviewed, all of these issues and contributions are still highly topical subjects.

**Roberts, M.C. y Steele, R.G. (Eds.) (2009). *Handbook of Pediatric Psychology*. New York: The Guildford Press.**

This is the fourth edition of the *Handbook of Pediatric Psychology* (Roberts and Steele, 2009), whose first edition was published in 1988 (Routh, 1988). It is the manual of the American Society of Pediatric Psychology and most of the authors of the

chapters are important members of the Society. This new version consists of 808 pages and offers an enlarged and updated vision of the topics addressed in older editions as well as some new ones.

The first part deals with professional issues and, among others, we can find an historical introduction to the discipline and its development in the United States of America, which goes deep into its history in the official journal, (*The Journal of Pediatric Psychology*), and in the training necessary for pediatric psychologists. The second chapter, on ethical and legal issues, shows some dilemmas likely to be met in daily practice, such as on-line treatments or the consent form. The third chapter illustrates professional development in pediatric psychology and how training is currently undertaken. The following chapter deals with research design and statistical application in psychiatric psychology, and the last one of this first section on American psychological services and private health insurance.

The second part, with 10 chapters, addresses present day cross-sectional topics, starting with cultural diversity and its relationship with illnesses. The following chapter discusses how to manage evidence based practice in order to apply the best available treatments. The next chapter deals with inpatient pediatric interconsultation, which involves the most active way for pediatric psychologists and pediatric specialists to collaborate. The chapter on adherence to pediatric treatment regimens is divided into three parts: definition and measurement, factors associated to better adherence and a review on interventions in order to improve them. The chapter on pain goes through the variables influencing its experience by children, its assessment and the approaches, which have proved effective, to deal with it. The next chapter discusses the necessary management of pain and distress during medical procedures. The next chapter makes a critical reflection on the most often prescribed medicines for psychopathological disorders and a number of chronic diseases. Chapter 13 of the manual is novel, as it proposes a category called *pediatric medical traumatic stress* (PMTS), referred to as *a set of psychological and physiological responses of children and their families to pain, injury, serious illness, medical procedures, and invasive or frightening treatment experiences*" (Kazak, Schneider y Kassam-Adams, 2009, p. 205). Chapter 14 describes the role played by palliative care, end of life and bereavement due to the death of a child. The last chapter in Part 2 deals with the applications of electronic health (e-Health) in pediatric psychology, that is, the use of the new interactive technologies of communication which improve health and care, such as PDA's, the Internet or virtual reality.

The third part of the manual, consisting of 21 chapters, is the longest one. It discusses specific chronic diseases, some child psychopathological disorders and organ transplantation. Given the large extension of this work, we cannot comment on each chapter separately.

Part 4 in the manual deals with public health and a variety of issues. Chapter 38 discusses racial and ethnic disparities in the access to a variety of health care services. Chapter 39 is about prevention of unintentional injury and how to reduce mortal accidents in childhood. The next chapter analyzes

health promotion in children and adolescents (integrating the biopsychosocial model and ecological or environmental approaches). The last chapter of this part relates pediatric psychology and primary attention and examines the cost reduction that such interrelation might contribute to the health system.

The fifth part of the manual has five chapters. It starts with a brief overview of systems in pediatric psychology research and practice by starting from the socio-ecological system model. The next chapter shows how family and health related contextual factors are organized from the socio-ecological model. Another chapter shows peer relationship perspectives of children with chronic illnesses, focusing on social functioning. Another chapter discusses schools and the patients' reintegration or integration into them after they have gone through especially acute phases of some illnesses. The last chapter starts from asthma as an example and discusses family interactions with the health care system.

The sixth part, on emerging issues, consists of five chapters. The first one shows the genetic advances that allows for the prediction of the onset of some child diseases and the psychosocial consequences deriving from them. The second chapter explains how findings of neuroscience can be transferred to the treatment of some disorders, focusing on those of the autistic spectrum and the hyperkinetic conduct disorder. Another chapter describes how some allergic diseases other than asthma have biopsychosocial consequences on the child's and his or her family's quality of life. Another novel chapter is the one on positive psychology, in which the authors analyze some variables that are starting to be studied, such as quality of life related to health and the so called post-traumatic growth. The last chapter analyzes the clinical, research and organizational collaboration that can be taken into account between pediatric psychology and other disciplines.

**Gómez de Terreros, I., García Rodríguez, F. y Gómez de Terreros Guardiola, M. (2002). *Atención integral a la infancia con patología crónica*. Granada: Editorial Alhulia.**

This large volume, in which 84 health and education professionals participate, is the first manual for the attention of chronic child pathology edited in Spain. It is not by chance that it has been conducted in Andalusia and that the authors are largely Andalusian and work in this Autonomous Region, since Social Pediatrics, as a section of Pediatrics, has, for several years now, been presided over by Professor Gómez de Terreros, who has largely contributed to its impetus, and one of its fruits has been the 30 year collaboration with the Unit of Social Pediatrics of Seville's University Child Hospital *Virgen del Rocío* and the Department of Personality, Psychological Assessment and Treatment of the University of Seville, which brought about the birth of the research group called "Pediatría Social y Psicología de la Salud" (Social Pediatrics and Health Psychology) (CTS-152), one of whose lines of research is child chronic pathology.

The manual shows the impact and consequences that a chronic illness can have in a family, without leaving aside the prevention and treatment of

these pathologies. It consists of four parts, the first of which, with seven chapters, addresses introductory and general issues. The first chapter of the manual calls attention to the difficulty of defining chronic pathology in children, given the fact that some authors establish different time limits in order to regard a condition as chronic. For that reason, after reflecting on the issue, García, Gallardo, Goya and Vázquez (2002) propose as the most adequate definition the one in the *Guía de atención a la infancia con problemas crónicos de salud* (Attention guide for children with chronic health problems), (Junta de Andalucía, 1997): *Chronic pathology is a health problem interfering with a child's daily activities, which lasts for over six months and requires specific and complex resources* (p. 32).

The second chapter deals with bioethics in pediatrics. Bioethics, which is ethics applied to medicine, is especially addressed to encouraging good health. The three principles which medical ethics is based on are autonomy, charity and justice. For more related information, one can check the recent and excellent manual in Spanish by de los Reyes and Sánchez (2010).

Very much related to the former, the third chapter deals with the minor's legal protection, which starts with a brief historical introduction on children's rights up to the moment when, in the 20<sup>th</sup> century, the Convention on the Rights of the Child came into force and was ratified by Spain in the year 1990, 30 years after the Declaration of the Rights of the Child. This chapter looks at this convention in great detail, as well as at Act 1/1996 on the minor's legal protection and the rights of disabled children in Spain, the informed consent form in pediatrics and the Spanish figure of El Defensor del Menor (the Public Defender of Minors).

The fourth chapter deals with "health promotion", which lies on the last step of integral attention to health. The term *health promotion* is understood as "controlling the factors influencing one's health as a citizen and as a member of a given group or community" (p. 91). In addition to this, there are reflections over strategies to work on quality of life.

The fifth chapter deals with the family as the health carer of a child with a chronic pathology, and it emphasises the importance of informal health care, understanding as informal those services which provide help or care without receiving any economic payment in exchange. This chapter details the functions carried out by the family as they assume this role, and focuses especially on the mother figure, who most often carries the responsibility and extra burden that this entails.

The sixth chapter of this first part of the book deals with child hospitalization. It draws attention to how strongly children feel their hospital experience and focuses on the recommendations that should be followed when a child is admitted to hospital. The chapter finishes by reflecting over what future hospitals will be like and by showing hospital structures, hospital humanization programmes, information to provide children with, hospital school services, or the necessary continuous care that should be carried out.

The last chapter of the first part deals with integral attention and is a conclusion for all of this

part of the manual. The authors consider that in order to be able to give health care, it is necessary to know the resources that are available. For this reason, reference is made as much to on-line services as to those offered by the public administration.

The second part of the manual deals entirely with various neontological problematic situations. Parts III and IV respectively deal with common and specific issues of chronic pathologies. Among the common ones, discussion is on adherence to treatment, pediatric psychopharmacology, painkilling and sedation, rehabilitation, diet and nutrition problems, vaccination, the psychological assessment of the chronically ill child patient, their schooling and the necessary school curricular adjustments. Social integration is also dealt with, as well as the family's relational dynamics, communication between and among professionals and the meaning of death to a child. Chapter IV deals with specific issues referring to a number of chronic diseases and psychopathological disorders.

**Ortigosa, J.M., Quiles, M.J. y Méndez, F.X. (Coords.) (2003). *Manual de Psicología de la Salud con niños, adolescentes y familia*. Madrid: Pirámide.**

This is the first manual (Ortigosa, Quiles and Méndez, 2003) published in Spain which includes the term *health psychology* related to children and it is 401 pages long. For the authors, child health psychology seeks to isolate the cognitive, behavioural and social variables that affect child and teenage health and illness. The patient's parents, who play a fundamental role, are also a basic pillar to promote health, prevent and intervene in the disease and affect the health system, the four objectives of the definition by Matarazzo (1980). In coherence with these assumptions, the manual is divided into three sections.

The first part looks at the fundamentals. The first chapter mentions the cognitive development in the concepts of health, illness and death in childhood and adolescence. The second chapter deals with stress and the coping strategies used by children depending on their age and the way they relate to those used by their parents. Later on it summarizes the development of the variables of child vulnerability to stress. The next chapter makes a full analysis of the variables that affect therapeutic adherence and subdivides them into variables related to the patient, the treatment, the doctor-patient relationship, structural variables and variables of the illness itself, and finishes with indications to assess and treat adherence. The fourth chapter deals with communication and health, which is fundamental to achieve child collaboration. It provides the functional communication strategies and advice to improve them.

The second part of the manual focuses on the interventions in a number of chronic illnesses. These chapters have a similar structure: after a brief description of the illnesses, they discuss instruments for the assessment of important variables of the illnesses as well as treatment strategies. Furthermore, the two last chapters deal with child maltreatment (although no reference is made to intervention) and physical disability.

The third part of the manual is titled *Prevention and Promotion of Health*, areas that very often receive less attention than is desirable. This part consists of seven chapters. One of them is on education for health, which analyzes some of the existing models and their application to childhood and adolescence. The next chapter is on attention to couples who undergo assisted reproduction treatment, although it only discusses the couples and there is no mention at all about the possible future children. Another chapter deals with preparation for hospitalization and surgery. It offers techniques for minimizing their negative consequences. The table shown at the end of the chapter is really useful to choose the best intervention. The following chapter is on the prevention of teenage drug use, using the example of the *Greetings to the Weekend* programme. Another chapter is on AIDS, and goes through the different generations of programmes related to teenagers, and finishes with the third phase of prevention of AIDS in children. The penultimate chapter, which includes postural hygiene and the prevention of lumbago, proposes specific programmes to mitigate these health threats. The final chapter analyzes the factors having a bearing on limited sports practice and proposes strategies to increase the habit of sporting activity.

**Holmbeck, G.N. (1997). Toward Terminological, Conceptual, and Statistical Clarity in the Study of Mediators and Moderators: Examples From the Child-Clinical and Pediatric Psychology Literatures. *Journal of Consulting and Clinical Psychology*, 65, 599-610.**

This is the most cited article in the databases checked when the term *Pediatric Psychology* was introduced. However, it is not an easy work to read for those professionals who lack training in research methods, as this is the theme discussed.

According to Holmbeck (1997), there is a frequent lack of conceptual, methodological and statistical clarity in the study of mediating and moderating effects in the specialised mental health literature. Thus, researchers attempt to examine the factors that moderate or mediate the associations between predictive variables and the results observed in adjustment variables or adaptation variables. Both in child clinical psychology and in pediatric psychology, the psychosocial models relating prediction and adjustment have become complex and the researchers working on these areas have found it necessary to hold conceptual models which do not escape the mediating and moderating effects of the variables studied.

In face of the facts described, the author has three objectives:

1. To explain the terms 'moderator' and 'mediator,' which are well defined and well differentiated.

A moderating variable is a qualitative variable, for example, sex, race or social class, or a quantitative one which affects the direction or the strength of the relationship between an independent or predictive variable and a dependent or criterion variable. In other words, a moderat-

ing variable is one which affects the relationship between two variables.

A mediator, on the other hand, specifies the way or the mechanism by which a given effect takes place. In other words and to make it simple, *the independent variable causes the mediator that then provokes the result* (Shadish and Sweeney, 1991, p. 883).

2. To revise and present statistical strategies to conduct tests on mediating and moderating effects. This work discusses two statistical tests, namely multiple regression and structural equation modeling (SEM). Even though SEM is often regarded as the perfect method due to the information it provides on the degree of *adjustment* for the whole model after controlling for measurement error (Peyrot, 1996), the adequate use of techniques can also provide significant data in relation to the hypotheses set. In addition to this, according to researchers on pediatric psychology, where the sample populations are often relatively small, the use of regression techniques, in comparison to SEM, can be necessary due to considerations of *strength*.
3. To present examples of adequate and non adequate uses of these terms in the literature specializing in child clinical psychology and in pediatric psychology, although to do that reference is only made to two published works. This section emphasizes the different kinds of problems that have started to arise in the literature, whilst researchers have been embarking on the study of moderating and mediating effects, such as terminological incoherence, incoherence between terms and concepts, incongruity between terminology and statistical analyses, lack of clarity of charts, and lack of conceptual clarity when a proposed mediator represents a *response* to a predictive variable.

**Special Issue: Evidence-based Assessment in Pediatric Psychology. *Journal of Pediatric Psychology*, 33 (9), October 2008.**

The objective of this series of articles published in a special volume devoted to evidence based assessment in pediatric psychology is, according to Cohen *et al.* (2008), to systematically identify and assess the best and most widely used instruments for assessment which are available to child and juvenile mental health professionals. As a matter of fact, in 2005, Division 53 of the APA published a special issue on evidence based assessment in child and adolescent disorders.

Seven of the most important assessment areas are studied in this issue, namely quality of life, family functioning, psychosocial and psychopathological adaptation, adherence to treatment, pain, stress and coping, and cognitive functioning. Of them, the articles devoted to the measures of family functioning (Alderfer *et al.*, 2008) and to stress and coping (Blount *et al.*, 2008) are among the most cited studies in the search carried out in the Scopus database when the term 'Pediatric Psychology' is selected in the field of key words.

The review of works by Alderfer *et al.* (2008) provides valuable information about the

measures of family functioning. However, it is argued that more attention should be paid to the psychometric properties of measures on the family when they are used in pediatric populations. Most family assessment measures used in pediatric psychology have been developed for the general population and have been applied to pediatric samples without there having been enough previously conducted research on their reliability and validity in these specific samples. For example, the article suggests that special attention should be paid to family heterogeneity and diversity.

Research is also needed on providing information about the validity of the measures in pediatric samples and it would be fundamental to provide some norms for these samples. In practice, some families of children with chronic illnesses can obtain scores which are interpreted as 'dysfunctional' when norms developed in and for the general population are used. Yet, these functioning patterns can be adaptive within these families, for example, the rigid adherence to complex treatments.

As regards the article making reference to assessing stress and coping strategies, Blount *et al.* (2008) make the point that it is essential to assess these aspects in practically all illnesses, as well as whenever child patients are submitted to medical procedures that generate fear or are painful, such as injections, treatment, surgery and hospitalization. Stress and coping are usually studied together. The latter can be defined as a fact or experience that drains an individual's resources. Coping has traditionally been defined as the thoughts and behaviours used to manage the internal and external demands of the situations assessed as stressing (Lazarus and Folkman, 1984).

That is why the assessment of stress and coping is essentially the assessment of risk factors and the ability to adapt or adjust to change, respectively. Identifying these risk and resilience factors through research on psychological assessment will be useful as long as these factors can be manipulated in order to achieve better medical and psychological results (Blount *et al.*, 2000).

**Drotar, D. (1977). Clinical psychological practice in a pediatric hospital. *Professional Psychology*, February, 72-80.**

In this article, Drotar addresses the characteristics of the exercise of Clinical Psychology in a service of pediatric hospitalization. The conclusions that the author puts forward are of great interest as they feature the same goals currently pursued by Pediatric Psychology. However, it is interesting to observe how certain the changes or improvements have taken place.

One of the most noteworthy aspects that describe the functioning of the service is that the consultations carried out by the doctors in the Psychological Attention service followed a given pattern: doctors in training were the first to seek psychological consultation. The pediatric unit's acceptance of the service was a more gradual process, as it was neurologists and general pediatricians that dealt with more children with developmental problems and, so, carried out more consultations.

Another important conclusion of this study is the difference between the demands for psychological assistance by external and hospitalized patients. In both cases the most common demands refer to assessment of cognitive development. However, the health professional's demands from hospitalized patients refer to psychological adjustment in chronic diseases, somatic complaints, acute emotional crises and adaptation of the child. It is necessary to bear in mind that, thanks to advances in diagnosis and treatment, illnesses which had until now been considered lethal were becoming chronic with long term consequences and with great significance for psychological and family adjustment. Such illnesses require complex interventions implying an understanding of human mechanisms to become adapted to stress and loss. The field of Pediatric Psychology can actually anticipate these problems and provide the necessary support to seriously ill children and their families, as well as to medical and nursing personnel.

Drotar refers to another important area of psychological intervention: its preventive character in disorders related to deprivation caused by hospitalizing babies and whose emotional alterations are first identified by pediatricians and nurses. As their reversibility is known, early identification allows for effective intervention. This may be one of the areas in which Pediatric Psychology has advanced most.

A criticism that the author makes about Child Health Psychology put into practice refers to the isolation and lack of coordination of hospitals and other community services such as education, social or legal services, in spite of the fact that communication is essential, above all in cases of abuse and negligence. Nowadays, we can say that Drotar's criticism and studies have permitted our discipline to advance in areas which used to be regarded as exclusively related to medicine. This is so much so that Drotar himself stated as a conclusion to his research that the demands on the psychological services in health care services would increase, as has actually occurred.

**Harper, D.C. (1997). Pediatric Psychology: child psychological health in the next century. *Journal of Clinical Psychology in Medical Settings*, 4 (2), 181-192.**

This article deals with the advisability that hospital based psychologists count on administrative support in order to see themselves strengthened as a group, and the need of the psychologist being not a mere collaborator in the health system, but one more health professional with a clear and perfectly defined place in the hospital organizational chart. That is to say, and just as the author states, future psychologists should be something else than a 'one-trick pony.' One of the resources suggested to achieve this goal is specialization.

In addition to specialization, collaboration and coexistence with other health professionals is also necessary. Furthermore, psychologists can function as links between the hospital and the school in order to communicate the needs of the child patients and their families. Collaborating with doctors can also ease communication with the patient about difficult information, methods and models in order to

make decisions together, adherence to treatment, intervention in pain and chronic illnesses or coping strategies in face of chronic illnesses. As a thought for the future, Harper sets out the need to collaborate with a number of organizations, both national and international.

This article also sets out the effectiveness of behavioural treatments when addressing severe behavioural problems in children and adolescents with severe developmental disorders. This may be the area in which Pediatric Psychology has advanced the most and in which the need to check effectiveness is now driving research.

Other important areas to develop are, first, intervention in developing countries, which would represent the opportunity to spread knowledge and to explore problems related to the transculturality of psychological health attention. Besides this, it is necessary to focus on education, having as its aim the primary prevention of risky behaviour on health and that this education reaches training areas and, as a consequence, the preventive sense of behavioural sciences will achieve a wider goal.

**Janicke, D.M., Finney, J.W., Riley, A.W. (2001). Children's health care use. A prospective investigation of factors related to care-seeking. *Medical Care*, 39 (9), 990-1001.**

This article reflects on what elements are related to the search for health care by the child and juvenile population, what will make the search more effective, as it has been shown that children's and juveniles' use of health services varies dramatically. A significant percentage of them make an extreme use of such services, both by excess or by default. The consequences on the health system are, in the first case, an increase in the risk of iatrogenic harm in the child and tension or exhaustion of resources in the public health system. In the second case, that of extremely reduced use of health services, the consequence is the increase of risk in public health.

In order to determine what would be the best predictors in the search of health care made by the child and juvenile population, the authors conducted a two year long prospective study with a number of families in order to gather data on the use of health attention services and to find out the associated factors. Thus, starting from the hypothesis that, although the various health studies must be the best predictors of the future use of health services, the fact is that psychosocial, maternal and family functioning variables will also have a significant predictive character.

Once the study had been carried out, the starting hypothesis was not completely corroborated. Thus, it was shown that having used health attention in the past was the best predictor for using it in the future; although the state of health and psychosocial variables are useful predictors, when the previous use of services is included in the regression model the influence of the rest of variables is reduced significantly. Nevertheless, if this information on the influence of both child and maternal psychosocial factors is not considered, the variable having the most relevance is mother concern for her child's health.

As regards child related psychosocial variables, the most influential one on the model set out is

the child's mental health. Children with emotional or behavioural problems show more physical and psychological symptoms, which means a worse general state of health and functioning (psychological discomfort increases both in the child and its parents and, in order to reduce this discomfort, parents resort to health services).

**Eccleston, C., Morley, S., Williams, A., Yorke, L. y Mastroiannopoulou, K. (2002). Systematic review of randomised controlled trials of psychological therapy for chronic pain in children and adolescents, with a subset meta-analysis of pain relief. *Pain*, 99, 157-165.**

If we start from the premise that systematic revisions attempt to apply the best design to investigate the effectiveness of a therapeutic intervention (Peñazola and Candia, 2004), the article that we are reviewing can be considered an important one due to the exhaustive search and bibliometric analysis of published articles about psychological interventions carried out on children and adolescents with chronic pain.

There is clear evidence of the effectiveness of psychological intervention on chronic pain in the adult population. If we base ourselves on the data obtained from recent research studies, a high percentage of children of school age state suffering from chronic or recurrent pain for three months or longer. Psychological therapies are being promoted as potentially effective interventions to manage severe pain and its consequences. Due to this, this study reviews clinical tests carried out with such therapies, and reveals that the most widely used treatments in this area of interest are relaxation techniques, relaxation plus bio-feedback, cognitive behavioural therapy, and cognitive behavioural intervention in the family.

After observing the analysis carried out by this study, its main conclusion is that there is not enough evidence to assess the effectiveness of psychological therapies that make it possible to improve mood, class attendance or the disability associated with chronic pain in children or teenagers. The reason is that the analyzed studies lack data which permit the assessment of other negative aspects associated with chronic pain and apart from this, what it suggests is that the only goal of the diverse treatments is to alleviate pain. As a positive aspect, the authors point out that all the studies included in the systematic analysis provide data on pain related standardized measures but they actually lack measurements with standardized multidimensional instruments to assess the impact of pain in the lives of children, teenagers or their families.

## CONCLUSIONS

Therefore, it should be made clear that current health care professionals not only act on the ill child or adolescent, not only treat or improve their health, but they should try to make it possible for them to be able to become integrated into society in all aspects of life by collaborating with their families and other social entities such as associations of par-

ents of affected children, in order to achieve the goal of integral attention.

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## Psychological and family variables in childhood burns. A review

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### ABSTRACT

This research analyzes the psychological variables related to patients and their families involved in childhood burns. These injuries are usually the result of a home accident whose main cause in children younger than five are scalds. According to the literature, the variables involved deal with the following issues: 1. The child's psychological and behavioural profile before suffering the accident. 2. The psychological impact of the injuries derived from the burns. 3. Family and socio-demographic variables. The studies that have been carried out point to hyperactivity, attention problems, irritability and anxiety as premorbid conditions. During their hospitalization, the children with burns suffer from fear, anxiety and sleeping disorders. Family functioning style, parent psychopathology and upbringing patterns are some of the variables studied due to their relation to childhood accidents. The characteristics of the injury, that is to say, the burned body surface and depth, the cause and the location, plus the context of the accident determine the prognosis and the psychological scars of the child and his/her family after the accident.

*Key words:* childhood burns, individual and family variables, psychological consequences.

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### INTRODUCTION

The interest shown by Spain in the psychological repercussions of childhood burns on the basis of the circumstances involved, the kind of injury, the associated physical consequences and the strategies to cope with their negative impact is very limited if we compare the number of studies conducted in Spain with the number of those carried out in other countries (Burd and Yuen, 2005).

Spain registers 300 burn patients per 100,000 inhabitants, 14 cases of which require secondary hospitalization (Curiel *et al.*, 2006). Spain has nine major burn units, two of them in the Autonomous Region of Andalusia, in which the most common admissions are of children and adults older than 69. Specifically, 20% of those admitted to the Unidad de Grandes Quemados del Hospital Virgen del Rocío de Sevilla (Unit for Serious Burns at Seville's Virgen del Rocío Hospital) are children younger than eight years old (Gómez-Cía, Mallén, Márquez, Portela and Lopez, 1999). An initial approach to present day knowledge about the psychological and family variables implied in childhood burns derives from some points of interest, namely:

*a)* the data available about incidence and prevalence, which in our ambience reveals that burn accidents are to be found most frequently among young children (Carol, Belmonte, Llorca and Iglesias, 2000); *b)* the seriousness of the physical and psychological consequences undergone by the minors affected by the injuries. The severity of the subsequent effects of the burns requires paying attention to; as well as reviewing the existing findings and conducting new research on the issue, and *c)* the large amount of research on childhood burns carried out by other countries from the 1970s, which has provided conclusive findings and opened up new research lines in the field.

Bearing in mind the age ranges of the patients attended to, the most common cause for childhood burns in children younger than five is scalds caused by skin contact with hot liquids (water, coffee, or oil, among others), objects and surfaces in the context of a home accident which usually takes place in the kitchen and in the presence of adults. Older children often get burned with direct fire, hot objects, electricity, explosions (e.g. firecrackers) and chemical agents (Lorenzo, 2009).

Burns are lesions caused by any agent which causes total thermal variation. Even though morphological alterations of the burned skin have a similar pattern, the seriousness, prognosis and evolution are usually influenced by the kind of agent involved, the size of the burned area, the length of time exposed to the thermal agent and its temperature

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(Lorente and Esteban, 1998).

The issues that characterize burns are extension and depth. Extension is expressed by the percentage corresponding to the body surface affected. The depth of injuries (epidermal, dermal, superficial, deep, sub-dermal and deep sub-dermal) conditions the local prognosis, modifies life prognosis and constitutes the main factor to establish the recommended surgical intervention in each case. Other relevant factors are the patient's age, the cause, the location of the injury, the existence of previous pathologies that might lead to a predisposition of suffering burns and the existence of associated injuries that might negatively influence prognosis (García, Herrera, García, Velásquez and Picó, 2000).

Socio-demographic, personal and family variables have received special attention by burn related studies due to their implication in determining the kind of burn and later treatment. Interest has been paid to economic and social resources, educational practice, parent supervision and unfavourable situations such as unemployment. The age and sex of the patient have proved to be relevant personal factors. As a matter of fact, age is related to the burn type and incidence, and boys are more prone to get injured by burns than girls (Celko, Grivna, Danova and Barss, 2009).

The first studies about effects and reactions from a psychological perspective were conducted in the 1950s. The study by Watson and Johnson (1958) stands out and describes the traumatic reaction of five children with burns. During the 1970s new research studies were conducted which showed interest in child and youth burns and their long term effects. Since that time the research studies have focused on one or some of the following issues:

*1) The child's psychological and behavioural profile before suffering the accident.*

The question set out is whether children with emotional disorders are more prone to burns or rather it is severe burns that provoke disorders in minors. Piazza-Waggoner *et al.* (2005) used the *Behavioral Assessment System for Children* multidimensional behaviour scale (Reynolds and Kamphaus, 1992) in order to assess the behavioural and emotional difficulties observed in 94 children aged 2.5-18 years before their hospitalization due to burns. The data from parents provided information that indicated that the youngest children showed hyperactivity, anxiety, aggressiveness and attention problems before the accident. In the case of school age children these problems were linked to depression related symptomatology and behavioural problems. It is well known that hyperactive children find it difficult to foresee the consequences of their behaviour and to anticipate risks. Lighting matches, manipulating electric appliances or playing with firecrackers are some of the events involved in accidents and subsequent burns (Badger, Anderson and Kagan, 2008). Apart from this study, Andersson, Sandberg, Rydell and Gerdin (2003) dealt with social competence and behavioural problems in a sample of burned children in comparison to a control group. The results showed differences between both groups in the dimensions assessed. The authors, furthermore, alluded to the possible influence of the child premorbid characteristics.

*2) Psychological impact of the injuries caused by the burns.*

The studies conducted reveal that children experience fear and anxiety in face of the treatment and the medical staff, whom they perceive as responsible for the pain they suffer (Delgado, Moreno, Miralles and Gómez-Cía, 2008).

The severity of the burn may on occasion require lengthy invasive treatment whose nature, duration and derived complications may bring about alterations and adverse psychological reactions, even if such effects seem to be conditioned by psychopathology previous to the injury, psychological disorders brought about by the accident itself and the subsequent injuries. In this sense, the pain provoked by the injuries contributes to the child's psychological disturbance (Henry and Foster, 2000). Rivlin and Faragher (2007) studied 44 children aged 11-16 who had suffered burns 3-14 years before. The participants were grouped by age, sex, burned body surface and location of the injury. The results obtained show that in spite of the length of time that had passed after the accident, the variables mentioned affected the social performance, depression and anxiety experienced by the children at the time the research was being conducted.

The studies also reveal that the children who have suffered from burns can experience depression, anxiety, fear and body image alterations after hospitalization. These effects are, in any case, related to the physical consequences of the injury and to the way the affected people cope with their everyday difficulties and with their peers (Liber, Faber, Treffers and Van Loey, 2008). In this sense, Landolt, Buehlmann, Maag and Schiestl (2009) allude to post-traumatic effect after the burns. Thomas, Blakeney, Holzer and Meyer (2009), have studied psychological alterations in teenagers who got burned when they were children. The results show that 52% of the teenagers meet the criteria of going through one or more psychiatric disorders and 22% were diagnosed with one or more comorbid disorders. Noronha and Faust (2007) found that some variables related to the injury (such as the location and extension of the burned body surface, the pain felt, or admission into the intensive care unit, etc), age, childhood premorbid psychological performance, that is, previous psychopathology and coping styles, visible sequelae of the accident, family socio-demographic variables, parent psychological adjustment and social support, among other variables, affected the psychological impact associated to burns in children.

*3) Family variables.*

The published studies reveal the influence of a number of family variables in childhood burns, for instance among others, family emotional imbalance, parent psychopathology, dysfunctional families and adverse family environment with educational practices far removed from the supervision and follow-up of child behaviour (C. Van Aken, Junger, Verhoeven, Van Aken and Dekovic, 2007).

In order to emphasize the need to provide psychological support to parents of burned children while they are hospitalized, Phillips and Rumsey (2008) studied the psychological disorders detected in

a sample of parents of burned children. Given the close affective relationship with the child and his or her conditions during hospitalization, the mother figure has received special attention and interest. Some studies show mothers with emotional alterations, such as anxiety and depression, who manifest strong criticism and distrust about the effectiveness of the medical treatment recommended and about the health care practices adopted in the care of their children.

Kent, King and Cochrane (2000) assessed mother anxiety in three groups of children, namely with serious illness, with fractures and children who had suffered burns. The results showed that the mothers of children with burns maintained a high anxiety level in the six months after the accident.

Hall *et al.* (2006) described post-traumatic stress episodes in parents of injured children three months after the accident (approximately 47% of the sample population). Finally, Phillips, Fussell and Rumsey (2007) also found that the normalization of family reactions after the accident, the family's support of the children in face of possible sequelae and the social support received, positively affected the psychosocial adjustment of the child and their family after the accident.

## DISCUSSION

In spite of the unequal data on the incidence of burns, the fact is that due to their characteristics, effects and consequences, they are regarded as one of the most serious and adverse kinds of injuries experienced by the human being. The concern increases if we consider that burns affect especially the child and youth population, specifically children aged 1-15.

The scientific interest in the psychological repercussions of these injuries during hospital admission, the post-hospitalization period and the later adaptation (sequelae) has increased over the last few years due, in part, to the high number of incidents recorded and to advances in medical treatment, and this has significantly contributed to guaranteeing the survival of many patients. The studies conducted to find out the origin and extent of childhood burns have revealed that they take place in the home environment and in the presence of adults. Hence, over the last decade a number of studies have emphasized the opportunity to develop prevention programmes and to disseminate the available knowledge in order to avoid risk situations. The studies reviewed focus on socio-demographic, economic and educational variables in the family environment and on those related to the children who suffer these accidents, such as age, gender or psychological profile, etc. The findings show that the variables involved in the circumstances of the accident coincide in most studies, irrespective of the origin of the children and the relatives affected.

In addition to the above, the research studies are interested in determining the psychological and behavioural profile of the burned child. The works published reveal some premorbid conditions related to impulsiveness, hyperactivity, little awareness of risk and the consequences of certain behaviour. There is no doubt that identifying and learning about emotional and behavioural variables prior to the accident will allow for the development of further

prevention strategies and provide more information to parents, as well as enhancing effective coping styles.

So far, the study on the psychological impact of childhood burns has basically focused on the hospitalization period. The existing studies have drawn attention to the role of the family, especially the mother's, as much at the origin of the accident, during hospitalization and after discharge. Special attention has been given to the mother's psychological characteristics and personal variables, which, according to research studies, determine the reaction after the accident and the family's coping ability. When the affected child goes back home after hospitalization, family adaptation to the new situation, adequate or inadequate styles in coping with likely visible scars and the need for lengthy surgery treatment constitute another area of study in this field. The interest in these issues seeks to develop intervention programmes in an attempt to alleviate the impact of the accident on the family and to encourage children and youths to take part in children's and young people's, relating to each other activities, in order to improve their psychosocial adjustment.

The scientific attention to and findings on the psychological effects observed on burned children and on their families have encouraged interest in psychological interventions addressed to these patients and their relatives. Cognitive behavioural techniques to cope with anxiety and to reduce stress as well as the application of new technologies such as virtual reality to control pain, relaxation techniques, counselling, and so on, are some of the important options.

Finally, it is worth indicating some limitations related to the study of this problem, namely *a)* the constraint coming from the child's assessment, carried out through the reports provided by parents and form teachers. Due, on occasions, to the severity of the burns and the young age of the children under study, the information obtained in the research studies frequently comes from people alien to the family environment. *b)* The study on variables sparking off or on a predisposition to suffering this kind of accident is a retrospective one. This is a fact recognized by the researchers on the issue, who admit the limitations derived from determining the psychological profile of those children who will suffer burns in the future (Armstrong, Gay and Levy, 1994). Nevertheless, the prospective character of the studies published up-to-date seems to be associated to the very object of the research. The works carried out with this goal have been conducted with the availability of the subjects of study, that is to say, patients who have actually suffered from burns. In spite of the recognized limitations, the findings obtained have permitted the proposal of initiatives and the carrying-out of research studies with prophylactic goals, in other words, studies seeking to determine socio-demographic, personal and family characteristics which are considered to be at risk of suffering burn accidents (Joseph, Adams, Goldfarb and Slater, 2002).

## CONCLUSIONS

Starting from the abovementioned, we conclude that childhood burns, which usually take place

at home, are most often scalds affecting children younger than five years old. The prognosis is related to the size and depth of the burn, as well as to the location of the injury, the cause, the patient's age, previous pathologies and associated injuries.

During the hospitalization period, children with burns are observed to show anxiety and fear associated to the pain produced by the injuries and the treatment. The child's emotional response is related to the seriousness of the pain and previous psychopathology.

The family variables involved in childhood burns include unfavorable or dysfunctional family environments, little supervision of the child's behaviour, family emotional imbalance and parental psychopathology.

To end, it is worth suggesting further research lines. The interest in specifying the correlation between the conditions and psychological variables aforementioned and the risk of suffering burn accidents is likely to be consolidated. The correspondence between behaviour disorders, specifically attention deficit hyperactivity disorder and accidents by burns, is one more area of attention for further research studies. Furthermore, some studies are still pending, among others, new contrastive studies between burned children and various groups of hospitalized children with different pathologies, in order to determine the extent of the psychological impact experienced by one or the other.

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## **Behavioural and emotional differences in groups of child and juvenile chronic patients**

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### **ABSTRACT**

This study aims at assessing and comparing the presence of emotional and behavioural factors in some child and juvenile chronic diseases such as asthma, diabetes and other allergic pathologies. The sample population consists of 201 asthmatic patients, 30 individuals affected by diabetes *mellitus* and 50 patients with other allergic pathologies. All the participants filled in a socio-demographic survey and the *Cuestionario de Conductas Problemáticas del Asma* (CCPA) (Asthma Problem Behaviour Questionnaire). The results show that asthmatic children and teenagers show more signs of *precipitating behaviours, psychological consequences, adverse effects and consequences in social and/or occupational life* than patients suffering from diabetes or other allergic pathologies such as rhinitis, conjunctivitis or allergic rhinoconjunctivitis. In the same way, diabetic patients show significantly higher scores in factors such as *precipitating emotions, self-management behaviours, social response and family consequences*. Therefore, the presence of psychological factors such as *adherence to treatment, health habits, social response, adverse effects and family consequences* seems to be more conditioned by the chronicity element and is equally present in groups of chronic patients with similar characteristics.

*Key words:* Asthma, diabetes, rhinitis, conjunctivitis, emotional and behavioural factors, children, adolescents..

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### **INTRODUCTION**

Illness has stopped being a purely biological concept to become a biological, psychological and social dimension, especially when we are referring to a chronic disease. Consequently, its comprehension and the way to deal with it has to be from a multidisciplinary perspective, with the contribution of different sciences and with the intervention of a variety of professionals, which surpasses the purely medical field. This fact becomes really important in the child environment, in which school, family and the social context where the child develops are especially important. Furthermore, treatment become more complicated in children, whose lack of years make it necessary to involve parents and people close to them so that they adapt to the child's new situation of illness. As for the factors affecting the adaptation to illness, it is worth pointing out: the disease itself, the child's individual characteristics and environmental factors (Johnson, 1985).

In addition to these, it is also pertinent to draw attention to the relevance of the communication of diagnosis and a series of other factors such as physical, psychological or social tension, the child's genetic constitution, his or her body features, developmental abilities and past experiences, including that of other diseases (Levine, Carey, Crocker and Gross, 1983).

Emotional factors also play a relevant role in the development and prognosis of a disease. For example, the research group led by Miller and Wood (Miller & Wood, 1994; Miller, Wood, Lim, Ballow & Hsu, 2009) has shown that the emotional response and physiological reactivity of asthmatic children while watching the film ET is associated with an increase of bronchial hyper-reactivity and to a decrease in lung performance. In this line, other authors have also checked how some specific emotions can trigger asthmatic exacerbation. Thus, Ponder and Guill (1993) showed that laughter and panic made it possible to provoke an asthmatic crisis at a camping site. Creer *et al.* (1988) concluded that weeping and laughing could trigger asthma, whereas coughing and sneezing could be both symptoms and precipitating factors.

Apart from this, in the area of diabetes, the emotional activation that provokes the stress plays a very important role in the destabilization of metabolic control, as stress can unbalance the glycemic index through a direct effect (adrenaline, noradrenaline or cortisol secre-

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tion), or an indirect effect (inappropriate habits such as having an unbalanced diet or oversights in the prescribed medication, etc.) (Méndez and Beléndez, 1994).

To a greater or lesser extent, the former variables modulate the psychological repercussions brought about by chronic diseases. Nevertheless, they are most often associated with general discomfort as a result of experiencing the symptoms and the limitations the ailment entails, which may produce stress for the patient and the experience of a number of negative emotions. In addition to this, we need to add the serious collateral effects that usually accompany chronic child and juvenile diseases, such as financial cost, conflicts in family dynamics or emotional problems (Pascual, 1995). Some of the chronic disease factors associated with the appearance of emotional problems in chronic patients are, among others, living with a debilitating and painful chronic disease, fear of dying, pain, the need for hospitalization periods, everyday routine care, loss of autonomy, the financial problems brought about by the disease, changes in family and social relationships and real or imaginary isolation (Bussing & Burket, 1993; Jensen, 1995).

In this line, a large number of works point out that in addition to stressful everyday events, being a diabetic implies being exposed to other additional specific sources of stress, such as complex self-care demands, occasional lack of specification in the diet to follow, daily treatment demands, insulin shots, constant blood glucose level monitoring, permanent decision taking when such levels change, and social pressures not to follow the diet (Johnson, 1992; La Greca *et al.*, 1995; Méndez & Beléndez, 1994).

Various studies discuss the presence of psychiatric problems or emotional alterations in this population (Collins *et al.*, 2008; Sarafino, 1990; Zashikhina & Hagglof, 2007). Fowler, Johnson, & Atkinson (1985) showed that children with some chronic disease had significantly poorer performance levels than healthy children, and had a higher rate of school problems; for example, grade repetition, need of support lessons or low academic achievement. Furthermore, other studies add that being affected by a chronic disease can affect other people's perception of the child, which brings about different treatment that may affect the child's behaviour (Creer, Stein, Rappaport, & Lewis, 1992). Thus, for example Drotar (1993) points out that having to take medication at school may contribute to the child's awareness of being different and cause difficulties of social adjustment. The continuous need for medication and the interference of the disease in the patient's life style is especially hard for teenagers, who usually react with negation, anger and lack of fulfilment (Brenner, 1991).

There is a generalized agreement that children with chronic diseases show more emotional problems than healthy children (Hysing, Elgen, Gillberg, Lie, & Lundervold, 2007; Hysing, Elgen, Gillberg, & Lundervold, 2009; Rajesh, Krishnakumar, & Mathews, 2008). This is illustrated by the studies conducted by Lozano & Blanco (1996), which compare asthmatic children, healthy children and others with chronic diseases and find that asthmatic children show more emotional disorders. For example, Lozano (1994) found that asthmatic children were, like their mothers, those who had a less stable personality, and were more introverted in comparison with healthy children and with others with

chronic pathologies, even though the differences were not statistically significant. It also stood out that the children belonging to the other chronic disease group more often showed depression than asthmatic children, who had worse self-esteem and social competence.

Along the same line, Holden, Chmielewski, Nelson & Kager (1997) found that children with disorders have five times as many probabilities to develop behavioural adjustment problems than healthy children. Shaw (1996) pointed out that the most relevant emotional consequences of a physical disease are anxiety, fear of dying, guilt and the wish to be punished, anger and resentment, self-condescension, the wish to have a normal life, drop in self esteem and frustration. Forero, Bauman, Young, Booth & Nutbeam (1996) also concluded that asthmatic children and teenagers reported more emotional reactions than their healthy counterparts, such as feeling depressed, unhappy and lonely, nervous and in a bad mood. The work on asthmatic teenagers by Alvim *et al.* (2008) determined that the prevalence of behavioural and emotional difficulties was greater than in non asthmatic teenagers.

Specifically in the childhood sphere, Bussing, Burket Kelleher (1996) studied the presence of emotional problems in asthmatic children and their relationship with asthmatic seriousness and medical comorbidity. They assessed children aged 5-17 years old, who were separated into various groups: children with chronic disease; children without any chronic disease; children with asthma and some other chronic disease associated with asthma, such as hearing infections, pneumonia, rhinitis, conjunctivitis or eczema; children with this chronic disease but without asthma, and children with asthma only. They concluded that children with severe asthma and another associated chronic disease had a greater risk of suffering from emotional and behavioural conflicts than children without any chronic condition, and were out of step academically and missed school more often. They also found that children with severe asthma were more likely to show emotional, behavioural and learning problems than children with slight or moderate asthma. In the same way, Rietveld, Van Beest & Prins (2005) selected a wide teenage sample with the goal of comparing the presence of depression and anxiety symptoms between teenagers suffering from various chronic diseases and healthy teenagers. They pointed out that the asthmatic group had significantly higher scores in panic attacks.

There is also a large number of research studies dealing with the emotional repercussions of diabetes. Méndez & Beléndez (1994) underline the repercussions the treatment has on the individual's social sphere, such as the stigma of being ill, feeling to be different from the others, and having to struggle against the general population's lack of knowledge and wrong ideas about diabetes. In the same way, Sudhir, Kumaraiah, Munichoodappa, & Kumar (2001) argue that managing diabetes is particularly difficult during adolescence, as the course of the disease and its influence on the subject's physiological growth may have a high impact on the teenager's psychological development.

Furthermore, the limitations on the style of life not only affect the patient but also involve the family. Patient and family need to cope with economic, social and emotional problems (Mitchell *et al.*, 2009). Family relationships become seriously affected, as many aspects of everyday life change due to the disease (Sudhir *et al.*,

2001). The study by Canonica, Mullol, Pradalier, & Didier (2008) confirmed that patients with allergic rhinitis reported sleeping disorders, tiredness, irritability and a wide range of problems. The patients studied perceived that their symptoms modified their daily performance and affected a considerable part of the day, especially the mornings, when the symptoms were more severe. In this same line, Sacchetti *et al.* (2007) assessed the impact of severe allergic conjunctivitis on the quality of life of 30 children affected by the disease and summarized that most of the patients reported itching, burning, blushing, need to use eye drops, weeping and photophobia. Furthermore, the children found limitations to go to the swimming pool, to do sport and to make friends.

Given the implication of chronic disease psycho-social repercussions in their assessment and prognosis, this study seeks to assess and compare the presence of behavioural and emotional factors in various child and juvenile chronic diseases such as asthma, diabetes or allergic conjunctivitis.

**MÉTHOD**

**Participants**

In order to meet the goals established, we selected a total number of 281 patients, who were divided into the three groups as shown in Table 1.

Group A consisted of 201 asthmatic people. There was an attempt to respect the proportion of genders in the sample, so there were 52% boys and 48% girls. All of them had been diagnosed and treated for extrinsic bronchial asthma by the specialist team of the Servicio Regional de Alergia e Inmunología Clínica del Hospital Universitario "Virgen Macarena" de Sevilla (Allergy and Clinic Immunology Regional Service at Seville's Virgin Macarena University Hospital). This group was gathered together over four and a half years with the aim of controlling and eliminating, as an extraneous variable, the seasonal character of asthma

Group	Disease	Amount	Age range	Ages grouping the largest number of patients
A	▪ Asthma	201	8-16	11, 12 and 14
B	▪ Allergic rhinitis ▪ Allergic conjunctivitis ▪ Allergic rhino-conjunctivitis	50	8-16	15 and 13
C	▪ Insulina dependent diabetes <i>mellitus</i>	30	8-16	11 and 13

**Table 1. Demographic characteristics of the groups in the sample**

The two other groups consist of children affected by chronic diseases whose course and physical limitations make them different from asthma but which share characteristics similar to those of asthma, such as being a non-visible disease, having relapses, demanding health care and family attention similar to those of asthma, needing few hospitaliations, not requiring surgical intervention, without any fatal prognosis, or with the implication of some genetic predisposition.

Group B consisted of 50 children and teenagers affected by other allergic pathologies, 62% boys and 38% girls. All of them had been diagnosed and treated for allergic rhinitis, allergic conjunctivitis or allergic rhinoconjunctivitis by the specialist team of the Servicio Regional de Alergia e Inmunología Clínica del Hospital Universitario "Virgen Macarena" de Sevilla (Allergy and Clinic Immunology Regional Service at Seville's Virgin Macarena University Hospital). The sample was gathered together over one and a half years. The aim was to eliminate the possibility that the results might be attributed to the atopic character of asthma, since many asthmatic children in the sample had other associated allergic symptoms, such as rhinitis and/or conjunctivitis.

Group C consisted of 30 patients diagnosed and treated for insulin dependent diabetes *mellitus* by the specialist team of the Servicio Regional de Alergia e Inmunología Clínica del Hospital Universitario "Virgen Macarena" de Sevilla (Allergy and Clinic Immunology Regional Service at Seville's Virgin Macarena University Hospital). The sample consisted of 70% boys and 30% girls, and was gathered together over one year.

The following were the inclusion criteria for the three groups: 1) being 8-16 years of age; 2) being diagnosed and treated for the disease characterizing the group, specifically extrinsic bronchial asthma, on the basis of the American Thoracic Society and the International Consensus Report on Diagnosis and Treatment of

Asthma, established for various degrees of severity (National Heart, Lung and Blood Institute, National Institutes of Health, 1995 and 2003) (Group A), allergic rhinitis, allergic conjunctivitis or allergic rhinoconjunctivitis (Group B), and insulin dependent diabetes *mellitus* (Group C), and 3) regularly attending external consultation at the unit where the diagnosis and treatment was been carried out, in order to control the 'medical attention' variable.

The exclusion criteria were the following for all the groups: suffering from mental deficiency, from a psychopathological disorder, from an associated chronic disease, being hospitalized and having gone through traumatic experiences over the last six months.

**Procedure**

The three groups of patients underwent the following the selection and derivation process: in the case of patients with asthma (Group A) and with other allergic pathologies (Group B), the first step was to revise the clinical histories of the patients who were going to consult the doctor that day. This first step was designed once it had been checked that there was not any specific administrative criterion to arrange an appointment and starting from the basis that all the patients going to that Health Service had the same probability to be selected. As for the diabetic patient group (Group C), all the clinical histories were reviewed by a specialist doctor, and so the patients meeting the inclusion criteria required were selected.

In groups A and B, if the patient met the inclusion criteria required, the allergist specialist was sent a written note about the patient's history which said that the patient met the requirements for the study. The health specialist explained to the patient and his or her family during consultation that, as a part of the attention given by the Allergy Service, the patient was being assessed

psychologically and that it would be a good thing to participate in the research study. If the patient agreed, the doctor sent him or her to the psychological assessment team. In Group C, the specialist doctor got in touch with the patient and parents by telephone and told them that as a part of the attention given by the Endocrinology Service, the patient was being assessed psychologically, which was part of a research study. If the patient and his or her family agreed, the endocrinologist sent the patient to the psychological assessment team.

In the three groups, the assessment team arranged an appointment with the patient and his or her parents in order to carry out the psychological assessment. Most often, the appointments were arranged in the afternoon in order to avoid school absenteeism and due to the greater room availability at this time of the day.

During this appointment the consent form was filled in and the patients were interviewed. Basic clinical and sociodemographic data were collected and the patient was given instructions about the way to complete the "Cuestionario de Problemas Conductuales de la Enfermedad" (a Behavioural Problems Illness Questionnaire) and asked to carefully read and answer each one of the items of the instrument. In some cases, the interviewer had to make clarifications about an item or to resort to a synonym in order for the patient to be able to understand the item.

### **Instruments**

After having explained the purpose of the study to the participants and once the clinical and socio-demographic data had been collected, we applied the *Cuestionario de Conductas Problemáticas del Asma (CCPA) para niños* (Asthma Problem Behaviour Questionnaire), which is derived from the "Asthma Problem Behavior Checklist" (APBC), created by Creer, Marion and Creer in 1983 at the Children's Asthma Research Institute and Hospital in Denver (Creer *et al.*, 1989).

The CCPA has been validated by Rubio, Pérez, Conde and Blanco (2004) with the child and juvenile asthmatic population in Spain. The conclusion is that the instrument is valid and reliable to detect behavioural problems associated with asthma in children and youths suffering from this illness. The reliability of the instrument was determined through the internal consistency of the measures and its stability by means of the test retest method, which gave a Cronbach's alpha of 0.865 and a test – retest correlation of 0.866. It consists of 76 items which are answered in a scale ranging 1 (never) to 5 (always), and which are grouped into the following areas: adherence to treatment (e. g. *Do you follow your medication instructions carefully?*), health habits (e.g. *Do you practise sport regularly?*), behaviour precipitating the disease (e.g. *Can any of the following conducts bring about an asthmatic crisis?: Laughing?*), emotions precipitating the disease (e.g. *Can any of the following factors bring about an asthmatic crisis?: Fear?*), disease self management behaviours (e.g. *Do you initiate treatment as soon as you detect a fit?*), social response to the disease (e.g. *When you have an asthmatic crisis, does anybody from this list help you to manage it more rapidly and more effectively? For example, someone in your family, parents, siblings...?*), psychological consequences in the child or teenager e.g. *Do you think or feel that asthma is the core of your life?*), adverse effects of medication (e.g. *Do you experience any of the following physical changes after having initiated treatment for*

*your asthma? For example, loss of appetite?*), family consequences of the disease (e.g. *Are your family activities centred on your asthma?*) and consequences of the disease in the social and/or occupational life of the patient and family (e. g. *Do you or any member of family experience any difficulties with the following factors due to your asthma? For example, at work?*).

Some items were slightly modified for the groups of diabetic patients and patients suffering from other allergic pathologies. Specifically, when the term 'asthma crisis' appeared, it was substituted by 'glycemia crisis' or 'allergy crisis' according to the illness. For example, in the item *Do you think that you can always foretell when you are going to have an asthma crisis?*, the expression 'asthma crisis' was changed into 'allergy crisis' or 'glycemic crisis' and so read: *Do you think that you can always foretell when you are going to have an allergy crisis?* or *Do you think that you can always foretell when you are going to have a glycemic crisis?*, according to whether the illness was rhinitis, allergic conjunctivitis or diabetes.

### **Data analysis**

To check to see if there were statistically significant differences among the three groups of illnesses (asthma, diabetes and other allergic pathologies) as regards the factors included in the CCPA, means and standard deviations were found which were typical of each one of the groups in each variable. Levene's statistical test was applied and then a parametric statistical test (analysis of variance) or a non parametric one (Kruskal-Wallis H test) depending on the homogeneity of variance. Later on, in order to determine between which groups there were differences, Scheffé's contrast method or the Mann-Whitney's U test were applied according to the kind of distribution of the variable to compare, namely parametric or non parametric.

### **RESULTS**

As shown in Tables 2 and 3, the comparison of measures shows the following results:

On the basis of the Mann Whitney U test, the *asthma group* significantly differs from the rest of the groups in *precipitating behaviour* variables and in the *social consequence* variables (*consequences of the disease in the social and/or occupational life of the patients and/or family*). The asthma group obtains the highest mean in both factors. As for the *adverse effect* variable, Mann-Whitney's U test determines that only the *asthma group* and the *other adverse pathology group* are significantly different from each other.

The application of the post-hoc test in the *social response area* and that of Mann-Whitney's U test in the *family consequence area* accounts for the significant differences between the *other allergic pathology group*, which obtained the lowest mean in both variables, and the rest of the groups,

As for the *psychological consequence variable*, the Mann-Whitney procedure establishes that the *other allergic pathology group* significantly differs from the rest of groups in this variable, whose highest score corresponds to patients with asthma.

The *diabetic group* differs significantly from the rest of groups in the *precipitating emotion variable*, as shown by Mann-Whitney's U test, and represents the highest score in this variable and in the *self-management variable*, as shown by Scheffé's test, as they carried out

the biggest number of self-management behaviours.

		Mean (SD)	Contrast statistic	p
<b>Adherence to treatment</b>	Asthma	4.22 (0.61)	4.60	.10
	Diabetes	4.49 (0.38)		
	Other allergic pathologies	4.25 (0.67)		
<b>Health habits °</b>	Asthma	4.32 (0.46)	.81	.44
	Diabetes	4.43 (0.48)		
	Other allergic pathologies	4.34 (0.38)		
<b>Precipitating behaviours</b>	Asthma	2.27 (0.86)	68.23	.00**
	Diabetes	1.66 (0.50)		
	Other allergic pathologies	1.28 (0.27)		
<b>Precipitating emotions</b>	Asthma	1.60 (0.72)	40.94	.00**
	Diabetes	1.89 (0.93)		
	Other allergic pathologies	1.04 (0.10)		
<b>Self-management behaviours °</b>	Asthma	3.63 (0.09)	4.598	.01**
	Diabetes	3.95 (0.43)		
	Other allergic pathologies	3.57 (0.54)		
<b>Social response °</b>	Asthma	2.74 (0.86)	19.78	.00**
	Diabetes	2.80 (0.71)		
	Other allergic pathologies	1.94 (0.76)		
<b>Psychological consequences</b>	Asthma	1.60 (0.52)	47.46	.00**
	Diabetes	1.49 (0.31)		
	Other allergic pathologies	1.15 (0.17)		
<b>Adverse effects</b>	Asthma	1.27 (0.36)	21.10	.00**
	Diabetes	1.19 (0.31)		
	Other allergic pathologies	1.05 (0.11)		
<b>Family consequences</b>	Asthma	1.70 (0.51)	47.45	.00**
	Diabetes	1.82 (0.39)		
	Other allergic pathologies	1.23 (0.30)		
<b>Social and/or occupational consequences</b>	Asthma	1.95 (0.95)	52.44	.00**
	Diabetes	1.26 (0.45)		
	Other allergic pathologies	1.10 (0.31)		

Note: ° Variables following a parametric distribution, \*\*  $p \leq .01$

Table 2. Comparison between the groups of child and youth chronic patients. Variance analysis and Kruskal-Wallis non parametric test H

	Contrasted groups	Contrast statistic	p
Precipitating behaviours	Asthma/Other allergic pathologies	1728.00	.00**
	Asthma/Diabetes	1219.00	.00**
	Diabetes/Other allergic pathologies	411.00	.00**
Precipitating emotions	Asthma/Other allergic pathologies	2403.50	.06
	Asthma/Diabetes	1219.00	.00**
	Diabetes/Other allergic pathologies	219.50	.00**
Self-management behaviours	Asthma/Other allergic pathologies	5.517E-02	.83
	Asthma/Diabetes	-.32*	.01**
	Diabetes/Other allergic pathologies	.37*	.02*
Social response	Asthma/Other allergic pathologies	.80*	.00**
	Asthma/Diabetes	-5.9577E-02	.93
	Diabetes/Other allergic pathologies	-.86*	.00**
Psychological consequences	Asthma/Other allergic pathologies	1951.00	.00**
	Asthma/Diabetes	2801.00	.53
	Diabetes/Other allergic pathologies	252.50	.00**
Adverse effects	Asthma/Other allergic pathologies	3055.00	.00**
	Asthma/Diabetes	2550.00	.15
	Diabetes/Other allergic pathologies	597.00	.06
Family consequences	Asthma/Other allergic pathologies	2115.50	.00**
	Asthma/Diabetes	2472.00	.11
	Diabetes/Other allergic pathologies	180.00	.00**
Social and/or occupational consequences	Asthma/Other allergic pathologies	2142.00	.00**
	Asthma/Diabetes	1724.00	.00**
	Diabetes/Other allergic pathologies	576.50	.02*

Note: ° Variables following a parametric distribution, \*\*  $p \leq .01$ , \*  $p < .05$

Table 3. Comparison between child and youth chronic patient groups. Scheffé's post-hoc test and Mann-Whitney's U test.

## DISCUSSION

Our findings show differences in the wide majority of emotional factors assessed on the basis of the chronic disease studied, asthma, diabetes or other allergic pathologies.

No significant differences were found among the three disease groups in reference to the *adherence to medication and health habits* factor. The three means are high, but it is worth pointing out that the highest corre-

sponds to the *diabetic group* and the lowest to the *asthmatic patients' group*.

The application of self-care questionnaires allowed Frey (1996) to state that general health behaviour is related to the state of health. This author also found in diabetic and asthmatic children that a better management of the disease favours better perception of their state of health, better physical and mental state and better metabolic control. This coincides with our findings in the diabetic group, as diabetic patients show the highest mean in the *self-management behaviour* area and maintain a significant difference with the two other groups. Diabetic patients also have the highest mean in the *health habits* factor and show fewer *psychological consequences* than the asthmatic group.

Shortcomings in health behaviour or health habits are equally dangerous for children with asthma, with other allergic pathologies and with diabetes. Frey, Guthrie, Loveland-Cherry, Park & Foster (1997) conducted a study on the relationship of risk behaviour in 155 teenage diabetic patients and showed that a high percentage of the sample reported alcohol abuse, unprotected sex and cigarette smoking.

The asthmatic group is the one with the highest number of *precipitating behaviours*, followed by the diabetic group and the other allergic pathology group. All of them differ from one another significantly. As for *precipitating emotions*, the diabetic group, which is the one reporting the largest number of precipitating emotions, shows a relevant difference with the two other groups.

Even though diabetes is also affected by stress and other emotional states, the term *psychosomatic* is closer to asthma (Hindi-Alexander, 1983). As a matter of fact, it had long been considered that emotional factors were the direct originators of the disease. However, our studies, in line with the ones obtained by Delameter (1992), show that emotions are more present in diabetic patients and, as the author draws attention to, stress can have catastrophic effects, as it is a significant factor that contributes to disrupting metabolic control, which can occur directly by means of physiological mechanisms such as counterregulatory hormones, or indirectly by affecting the therapeutic completion, or through both ways (Silverstein *et al.*, 2005). Unfortunately, the generalization of the results is limited by the fact that the studies seeking to show the effects of psychological stress on diabetic youths have used only small population samples.

In this same line, many research studies (Helgeson, Escobar, Siminerio & Becker, 2010, Schilling, *et al.*, 2009) have determined that lack of emotional stress management is related to worse metabolic control. In this sense, excessive physiological activation leads to an increase in the levels of cholesterol, triglycerides, and ketone bodies that the diabetic patient is not prepared to counterregulate.

But not all diabetic patients respond to stress in the same way. Méndez & Beléndez (1994) reviewed some works referring to the effect of stress on the glucose level in blood and concluded that there was a great difference in the metabolic vulnerability to stress found in insulin dependent subjects. Such differences depended, among other things, on the strategies to cope with stress and on the characteristics of the stressful stimuli. As held by Méndez & Beléndez (1984), this sensitivity to emotional factors can be accounted for by the collat-

eral effects of the treatment such as hypoglycaemic episodes which occur quite often in insulin dependent diabetic patients, who, thus, develop fear towards hypoglycaemia. These authors dealt with a series of studies seeking to account for the factors involved in the development of this fear and, among others, they emphasized the following: previous experience of hypoglycaemic episodes, uncertainty about possible future complications, difficulties to differentiate between a number of symptoms, feelings of frustration in face of unexplained high glycaemia levels, or aversive physical, cognitive, motor and social repercussions brought about by hypoglycaemic episodes.

There is a significant difference between diabetic patients with those of the rest of the groups. The diabetic group was able to carry out a larger number of *self-management behaviours*. Milousheva, Kobayashi, & Matsui (1996), found sex related differences in strategies to cope with the disease in 43 children, teenagers and young diabetic patients, which were measured by a coping strategy questionnaire. The strategies most often used by males were *avoidance behaviour*, followed by *cognitive distraction* and *distractive behaviour*. The behaviours most often reported by the female group were *searching for social support*, that is, discussing the issue with friends, and *distractive behaviour*, which were followed by *aggressive attitudes*.

This difference in self-care abilities towards the illness can constitute a risk element for the two other groups of patients, especially for the asthmatic group, as the emotional and behavioural problems related to the control of the disease, such as family disfunction or conflicts, poor adherence to medication, insufficient self-care or symptom perception problems are implied in asthmatic mortality (Lehrer, Sargunraj & Hochron, 1992).

This fact can also account for self-care behavioural differences between the asthmatic and diabetic groups at the onset of both pathologies. As mentioned above, the onset of diabetes is usually more abrupt than that of asthma. From that very moment, the action carried out by the health care personnel is basically oriented to make the patients and their families become aware of the chronic condition, of the importance of fulfilling the prescribed medical guidelines, and the management of the disease. This series of events, which do not take place at the onset of asthma, may actually be rather shocking in the short term; however, they will bring about a greater assimilation of the problem in the long run, and so directly fall under the individual's control of his or her illness.

All of this leads to the fact that the diabetic patient is aware of his or her condition from the very onset of his ailment and, therefore, has learnt all he or she has to do in spite of the fact that the care related to the illness requires rather technical and specialized action. On the other hand, it is a fact that months and even years may pass between the first wheezing, the first dyspneas, the first bronchodilators, and the first time that an asthmatic patient hears the word *asthma*. Up to that moment, what the patient has heard his or her mother say is just *My child only has bronchitis*, or *The coughing is just an allergy*.

Managing diabetes also requires greater rigour in self care activity. Improving control over diabetes involves daily glucose control, insulin injections, diet adherence and physical exercise. As a consequence, as

recommended by Faulkner (1996), the self management tasks that diabetic patients need to be trained in are learning about diabetes, about insulin doses, its administration, monitoring glucose level, keeping to a diet, doing exercise, assuming degrees of responsibility and taking decisions. It is the health care system, by means of its strict and rigorous medical revisions, that is responsible for reminding the child and teenage diabetic patient, for making them aware of their chronic condition and need for self care. Diabetic children can assume a significant role in their care of diabetes around age 12 (Faulkner, 1996; Johnson, 1989). Nursing is still under parental responsibility for asthmatic sufferers and this has become increasingly complicated with inhalers and inhaling devices and with the appearance of a variety of medicines with different aims and formats. This makes most asthmatic children and teenagers 'not know' what their treatment is, 'forget about medicines' or 'not know how to take them.' In this sense, Leiria *et al.* (1999) argue that only 29% of asthmatic patients take their medication with them.

To all of this, the ill person's ability to identify symptoms has to be added. Johnson (1989) maintains that the child needs to be sensitive to the signs and symptoms of hypoglycaemia and hyperglycaemia and be aware of the actions to carry out rapidly. But glycaemia crises are easily identifiable, as they are announced by a great number of symptoms. Thus, hypoglycaemia usually appears with shivering, dizziness, perspiration, paleness of the face, hunger, tiredness or heaviness, shudders, convulsions, disorientation, weakness, blurred or double vision, pins and needles in the limbs, earache, tachycardia, gastric discomfort, severe headache or uneasiness.

In the case of hyperglycaemia we would be alerted by perspiration, frequent urination, thirst, dizziness, tiredness, severe headache, dry mouth, nausea, abdominal pain, feeling hot, nervousness, euphoria, irritation or apathy.

In the case of asthma, the child or teenager needs to pay attention to the symptoms which announce a worsening in breathing. However, not all crises have symptoms which announce them and not all patients are able to recognise them. Furthermore, in some cases, asthmatic patients do not detect any stimulus predicting a crisis such as the feeling of itching and irritation in the throat, on the neck or at the top of the back. We have found patients in our sample who were unable to recognize the presence of wheezing, which they associated with their normal state, and even patients who made statements such as "I'm choking in the usual way."

As for the *social response* variable, in the means of the diverse groups one can see significant differences between the *other allergic pathologies* group and the rest of groups, giving lower means than the other two groups which show similar scores. This suggests that the social impact factor is levelled off in asthma and diabetes, which is to be expected if we bear in mind that the common denominators of these two diseases, namely hospitalizations, school absences, limitations and restrictions, are more striking than the characteristics shared with other allergic pathologies.

As regards the *psychological consequences* of the disease, the patients suffering from other allergic diseases have the lowest mean, which significantly differentiates them from the rest of patients. Asthmatic

patients manifest more psychological consequences than diabetic patients, but not in a relevant way.

Padur *et al.* (1995) compared healthy children and others with diabetes, asthma or cancer. They found that asthmatic patients had more affective problems and functional limitations, and scored significantly higher in depression and behavioural problems. Sillanpaa (1987) studied 532 children with a number of chronic diseases, such as epilepsy, asthma, diabetes, brain paralysis, brain dysfunction and coronary disease. He concluded that, in proportion, children with asthma also had more behavioural problems than diabetic children (58% vs 53%). However, asthmatic children had fewer problems than the children suffering from the rest of the diseases.

Although the appearance of these emotional repercussions can actually be accounted for by the chronicity element, it is a fact that some nuances need to be specified, as psychological consequences are also present in other chronic diseases with characteristics similar to those of asthma, whose symptoms are not as spectacular as in this disease. Therefore, we agree with the authors' opinion that asthma brings about behavioural problems to patients depending on the group of reference they are compared with (McQuaid *et al.*, 2001). These characteristics seem to focus not only on physiopathology (on the non visible, of an episodic nature, with a non fatal prognosis and with some implied genetic predisposition) or on daily treatment (on the completion of pharmacological and medical prescriptions, the unfrequent need for hospitalization and the lack of the need for surgical intervention), but also on the psychosocial demands of the ailment or on the significant way the quality of life of the ill person is affected.

We do not coincide with Bussing *et al.*, (1996), who attribute the emotional disfunctions found exclusively to chronicity. These authors studied the presence of emotional problems in asthmatic children and the relationship of these problems with the seriousness of asthma and medical comorbidity. They used the *Child Behaviour Checklist* and applied it to 5-17 year old children who were separated into the following groups: chronic child patients; children without any chronic disease; children with asthma and some other chronic disease associated with asthma, such as ear infections, pneumonia, rhinitis, conjunctivitis or eczema; children with the same chronic disease but not suffering from asthma, and children with asthma only. They determined that the children with asthma and one associated disease had a significant risk to have more emotional and behavioural problems than children without asthma or children without any chronic condition. Asthmatic children actually manifested more academic problems, missed school more often and had behavioural problems likely to be attributed to the chronicity of the disease and not to the very characteristics of asthma itself.

Our study shows that asthmatic patients are the ones with the greatest number of psychological limitations, probably due to the existence of some element other than chronicity that, added to it, may be relating these patients to more emotional problems. In this sense, we need to allude to the unpredictable character (the patient doesn't know when he is going to suffer an attack) intermittent (but knows he is going to have one), variable (the variety of provoking stimuli), the reversibility of the attacks and the characteristic symptomology of the crisis.

In fact, variability and unpredictability are not a problem in the case of diabetes. The easy monitoring of diabetes makes it possible to detect even the slightest glycemic changes and allows for the prediction of possible crises and so the appropriate measures can be taken. This is not replicable in asthma, as the measure of peak expiratory flow is not available to all asthmatic patients, and the PEF, that is, the Peak Expiratory Flow Rate, can change in a matter of seconds if it comes in contact with the allergen. To all of this one has to add the fact that the diabetic person can manage his or her precipitating factors more easily, whereas the asthmatic patient finds it more difficult to control triggers such as mites, fungi, or the pollen coming through the classroom window. In this line, Padur *et al.* (1995) attributed the results of their studies to the overprotection exercised by parents in fear of the unpredictable character of asthmatic episodes. Emotions such as anxiety, anger or frustration can arise as a result of the unpredictable and uncertain nature of asthmatic episodes. Vázquez and Buceta (1994) also warn that the anxiety resulting from an attack can trigger chronic physiological activation, which contributes to the appearance of further acute episodes.

An aspect that could contribute to clarifying the differences is the typical symptomatology of the asthmatic patient. Even though diabetes can provoke serious long term complications such as blindness, kidney disease or arterosclerotic cardiovascular disease, this possible fact is not clearly assumed by the diabetic patient, who feels danger as a very far away perception. Actual danger is more closely perceived by the asthmatic patient, who clearly feels lack of air, breathing difficulties and the threat of death, which provokes feelings of distress, anxiety and frustration. Apart from this, there are many performance restrictions suffered by asthmatic patients due to the symptomatology. The asthmatic child or teenager is aware of his or her inability to carry out the same activities as their peers. This brings about feelings of frustration or sensing that they are different from other people.

The difference between asthma and diabetes can also lie in the wide-range of diabetes education available for the diabetic person. The training puts special emphasis on the need to carry out treatment and control metabolism appropriately. There are research studies which have found these factors to be associated with emotional equilibrium. Thus, Delamater (1992) reviews a number of studies and argues that diabetic children's emotional coping is associated with worse psychosocial adjustment, bad adherence to medication and worse metabolic control. Fonagy, Moran and Higgitt (1989) review a series of research studies carried out with diabetic children and concluded that poor diabetic control is associated with emotional, psychopathological and family problems. Likewise, Johnson (1985) states that the patients with poor metabolic control experience more interpersonal conflicts than those with a good control of it. Puerto, Vaz, Rayo and Moreno (1994) studied the relationship between some psychological variables and metabolic control in 28 children with diabetes *mellitus* and found that the worse the metabolic control the more emotional problems, e. g., anxiety and depression.

As regards the *adverse effects* variable, the asthmatic group has the greatest number and the group with *other allergic pathologies* has the lowest, being significantly different to each other. These findings are in the same line as those by Forero *et al.* (1996), who concluded

that asthmatic children and teenagers reported more somatic complaints, such as vertigo and sleeping disorders than non asthmatic patients. The research by Wjst *et al.* (1996) concluded that asthmatic children had more sleeping disorders, that is to say, they sleep fewer hours than hyperactive or healthy children. The fact that asthmatic patients are the ones recognizing the largest number of secondary effects can be due to the wide spectrum of adverse consequences brought about by the medication, namely heart rhythm disorders, insomnia, nervousness, excitation, headaches, nausea, loss of appetite, weight increase or ulcers. Other reasons for the same secondary effects are the typical physical repercussions of asthmatic exacerbations, such as sleep alterations, tiredness or pain in the chest.

Patients suffering from other allergic pathologies are the ones who significantly report the smallest number of *family consequences*. The diabetes and asthma groups have similar scores.

Other studies carried out with chronic patients reveal the repercussions on the family of the disease (Majani *et al.*, 2005). Northam, Anderson, Adler, Werther and Warne (1996) discussed the association between diabetes and moderate rates of motherly distress, especially in school children, and found social disruption in diabetic children's parents. Faulkner (1996) assessed parents and siblings of children with diabetes. He used a semi-structured interview about the family consequences of diabetes, their implication in the diabetic person's care and their family responsibilities. He determined that, according to the parents, the effects of diabetes on the family were mainly remembering the moment when it was diagnosed, changing the diet, being submitted to a daily activity schedule, resorting to disease coping strategies, coping with insulin reactions and controlling diabetes. The siblings did not identify any family consequence on a large scale, although the most reported answer was the need to be alert to the possible signs shown by the affected brother or sister.

The research study by Lavigne and Ryan (1979) also finds that the siblings of children with chronic diseases do not show significant differences in relation to aggression or learning problems. However, Tritt and Esses (1988) report an increase of behavioural problems in the siblings of chronic patients in comparison with the siblings of the children in the control group.

Although in general terms we can state that having a child with a physical handicap is a source of stress for the family (Kazak, 1989), we can actually establish a series of differences to assess family consequences on the basis of the disease suffered from by the child. Once again it needs to be highlighted that those diseases with common characteristics, such as asthma and diabetes, share similar limitations. Bussing and Burket (1993) studied intra-family anxiety and stress rates in children with asthma, hemophilia, hemophilia with HIV and healthy children. They found that the asthmatic child family showed higher rates of intra-family stress.

We join the view by Goldberg and Simmons (1988) in emphasizing that taking care of both asthma and diabetes requires the parents' performance of a series of tasks. The diabetic child's family has to inject the insulin and so obtain the adequate blood levels of glucose; they also need to select the diet and may come across disagreeable situations of hypoglycaemic crises. The asthmatic child's family needs to provide the pre-

ventive medication and cope with emergency situations in which the child may not respond to the treatment,

As for changes in the family's environment, there are also similar patterns. The asthmatic patient's family needs to stop smoking or having pets at home. The diabetic patient's family needs to adapt to a diet. One more common denominator is the dependence and overprotection generated by both diseases. The parents of asthmatic and diabetic children, aware of the complications deriving from the illness, behave with overprotection and concern, and find it difficult to leave their child with anybody, as they do not dare to leave the nursing responsibilities in the hands of anyone else, this therefore has a bearing on the parents' personal and social lives.

In regards the *social consequences* area (the consequences of the disease in the social and/or occupational life of the child and/or their family), we find that the asthmatic group significantly differs from the rest of the groups obtaining a much higher means. Consistent with our results, we would like to draw attention to the study by Gutstadt *et al.* (1989), which reports that there is more school absenteeism in asthmatic children than in healthy children and in those suffering from any other disease. Sillanpaa (1987) assessed 532 children with a number of chronic diseases, namely epilepsy, asthma, diabetes, brain paralysis, brain disfunction and coronary disease. He determined that asthmatic children, followed by those with diabetes, were the ones who less participated in playful family activities. However, diabetic children, followed by asthmatics, were the ones who most participated in out of home leisure activities.

Richards (1994) concluded that children with rhinitis can also have school problems as parents and teachers usually attribute the nasal symptoms to a possible infection and that antihistamines can bring about sleepiness and irritability, and so interfere with academic performance. However, it is worth stating that if the diagnosis and treatment have been carried out correctly and communicated to the patient and his or her family, the family and the patient can now perfectly distinguish the allergic symptoms of other infection driven symptoms. Furthermore, irritability and sleepiness has been minimized in the latest generation antihistamines, so they hardly provoke these adverse effects.

There are studies which do not determine any social and/or school repercussions in asthmatic patients. As a matter of fact, Sillanpaa (1987) analyzed 532 children with a number of chronic diseases such as epilepsy, asthma, diabetes, brain paralysis, brain disfunction and coronary disease, and concluded that 95% of asthmatic children did not have any problem with social integration.

An argument justifying the data produced by our study is the research conducted by Holden *et al.* (1997). These authors concluded that, even though the physiology, the daily treatment and the psycho-social demands of these three groups of diseases, especially diabetes and asthma, share some similar characteristics, the fact is that the consequences associated to each of them are different. In this respect, we find that the *awareness of the disease* factor plays a key role in this issue.

We remain with the hopeful study by Goldberg and Simmons (1988), which states that in spite of the high number of school and behaviour problems, the fact

is that most children with a chronic disease attain normal social and intellectual development.

In conclusion, we can emphasize that asthmatic patients show more problems than those suffering from the rest of the diseases studied in the areas related to *precipitating behaviours, psychological consequences, adverse effects* and *social consequences*. In the areas related to *adherence to treatment, health habits, precipitating emotions, self-management behaviours, social response and family consequences*, they highest scores are shown by patients with diabetes and with other allergic pathologies. However, the difference with the asthma group is only relevant in the case of *precipitating emotions* and *self-management behaviours*. Consequently, the presence of psychological factors such as *adherence to treatment, health habits, social response, adverse effects* and *family consequences* seems to be more conditioned by chronicity, being equally present in groups of chronic patients with similar characteristics.

These findings have great practical use in the health care area, as they permit us to learn about the risk factors of a variety of patients in relation to the areas being assessed and so we are able to take the appropriate measures. These facts should make it possible to design and put into effect, from primary health care or paediatric attention, workshops or working groups attending to the groups of patients with the most difficulties in the areas under study, bearing in mind, for example, the role played by emotions as triggers in diabetic children or the limitations in the social life of children with asthma.

Finally, one should point to the possible limitations of this study, which should be solved in future research. Among others, we should control the kind of support and care provided to each one of the participants by their families, the possible interactions between some personality profiles in each one of the illnesses studied, and the validity of the instrument applied to a child and juvenile population with diabetes and other allergic pathologies.

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## **Assessment of the effects of a violence prevention programme on cognitive and behavioural factors from the subjective perception of teachers and adolescents**

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### **ABSTRACT**

The aim of this study was to assess the effects of the *Dando pasos hacia la paz* (Taking steps towards peace) intervention programme, which seeks to encourage respect for human rights and prevent violence. The sample consisted of 191 15-17 year old teenagers ( $M = 15.54$ ,  $SD = 0.69$ ) and 9 teachers who implemented the programme. The teenagers were 10<sup>th</sup> grade students from schools in the Autonomous Region of the Basque Country. The intervention consisted of ten 90-minute sessions at the end of which the teachers and teenagers completed a questionnaire assessing their experience of the programme and evaluating its effects on people's social and emotional development. The findings showed that the teachers who had implemented the programme: 1. positively assessed 14 of its qualities-utilities; 2. regarded that, in general terms, the experience was very positive and they were going to keep implementing it in the future, and 3. noticed that their students showed a medium-high level of change in 7 social and emotional development factors, namely communication, social behaviour, emotions, violence, conflict resolution, prosocial and human right values, and psychological well-being. The teachers' perception coincided with that of the students' perception of change. The debate now turns around the potential roles of these programmes in the prevention of political violence.

**Key words:** assessment, programme, political violence, peace, adolescence.

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### **INTRODUCTION**

Throughout history human beings have often been seen to carry out violent actions which have harmed other people and have generated intense and long-lasting pain and suffering. Violence can be defined in many ways. The World Health Organization defines it as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, which either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation." (WHO, 2003, p. 5) Starting from this definition, it can be stated that violence has always been a part of human experience. Its effects can be seen in different ways all over the world. Over the last few years, the problem of youth violence has been the object of increasing worldwide interest for education and mental health professionals.

As a consequence, one line of research has focused on designing and assessing programmes to prevent and diminish violence. The findings of these studies have shown interventions to be efficient in school contexts (Dawn and Shaughnessy, 2005; Díaz-Aguado, 2005; Dole, 2006; Farrell, and White, 2001; Garaigordobil, 2004, 2008b; Garaigordobil, Maganto and Etxebería, 1996; Roberts, White and Yeomans, 2004; Segawa, Ngwe, Li and Flay, 2005; Simon *et al.*, 2008; Slone and Shoshani, 2008), in clinical contexts (Chandy, 2007; Freiden, 2006) and in community contexts (Sege, Licenziato and Webb, 2005).

Cooperative programmes for the prevention of violence carried out with children and teenagers in school contexts have confirmed the positive effects of these interventions as they have boosted prosocial behaviour (Garaigordobil, 2008b; Garaigordobil *et al.*, 1996), have increased empathy, self-concept, self-esteem, the positive image of the others and the ability to analyze feelings, and have also decreased anxiety (Garaigordobil, 2004). All in all, these experiences play a significant role in the prevention of violence.

Farrel *et al.* (2001) assessed the effects of a violence prevention programme that combined a problem

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solving social and cognitive model with specific abilities for the prevention of violence. The participating subjects were six grade students from three urban schools aged 10.2-15.3, who had randomly been assigned to the intervention ( $n = 321$ ) and control ( $n = 305$ ). Those students who participated in the programme less often infringed the law with violent crimes, were sanctioned less over a longer time, used peer mediation more often in conflictive situations and reduced injuries associated with fighting. The programme had a greater impact on the violent behaviour of those participants who had shown high levels of problematic behaviour in the pre-test.

Sege *et al.* (2005) carried out a community intervention programme for the prevention of violence which had been proposed by the Massachusetts Medical Society. Since 1996 they have developed materials to support those doctors willing to incorporate prevention of violence in emergency primary health care and medical assistance. They have put together information addressed to parents, a clinical guide and on-line education in partnership with the Harvard Prevention of Youth Violence Center, which has provided technical assistance. The great number of community organizations from all over the USA who have turned to this information is evidence of the success of this project and the usefulness of information in the prevention of violence.

Simon *et al.* (2008) have recently assessed the impact of a prevention of violence programme applied in schools, in its effects on a number of social and cognitive factors associated with aggression and non-violent behaviour in early adolescence. The assessment was carried out with students from 37 schools ( $n = 5,581$ ) and the findings confirmed that high risk students reduced their beliefs in and attitudes of support to aggression, improved self-efficacy, as well as their beliefs and attitudes of support to non violent behaviour.

Although there are various types of violence (bullying, racist, sexual...), and all of them are a source of concern and, in consequence, should become the object of intervention programmes, this study is especially concerned with the violence having political motivation. In this context, this study assesses the effects of an intervention programme to prevent violent behaviour, to educate in the peaceful resolution of conflict, to enhance respect for human rights and to increase sensitivity to the victims of political-terrorist violence.

A review of the literature highlights the small number of intervention programmes applied to social contexts in which there is a conflict of political violence and terrorism. Among the most recent research studies on the issue, it is worth drawing attention to the school prevention programme developed to cope with political violence in Israel by Slone and Shoshani (2008). Three factors, social support, self efficacy and a sense of attribution, were incorporated into the programme, which was administered in primary schools. The results of the study, which had incorporated a design of repeated measures and control groups, confirmed that social support mobilization could be modified. The findings reinforce the role of the educational context to promote resilience in children who live in conflictive environments.

Most present day theories on violence hold that violent behaviour results from a number of causes, among them psychobiological and environmental. Nevertheless, this research study bears the cognitive perspective in mind (Beck, 2002, 2003; Beck and Pretzer, 2005),

which argues that people's thoughts decisively affect their emotional responses and behaviour and, in consequence, certain ideas, beliefs or thoughts can actually encourage and justify violence. This study proposes to implement intervention (independent variable) from a cognitive and behavioural perspective, as we believe that the programmes which promote the moral analysis of thoughts, ideas and beliefs, that promote empathy towards the victim, as well as the sense of responsibility for the behaviour carried out can actually have an important effect in the prevention of violent behaviour.

The aim of this study is to assess the effects of the *Dando pasos hacia la paz* (Taking Steps Towards Peace) programme, which seeks to enhance coexistence, respect for human rights and to prevent violence. Specifically the subjective perception of the teachers who have implemented the programmes is assessed: 1. on the qualities and usefulness of the programme; 2. on the comprehensiveness of the experience, and 3. on the effect that the programme has had on seven dimensions of the social and emotional development of adolescents, comparing this evaluation with the one by the adolescents who underwent the programme. Complementarily, the study analyzes the programme strengths and weaknesses through an open-ended evaluation carried out by the participating teachers. The teachers provided qualitative information at the end of the programme (more and less interesting activities, negative aspects, and so on), which was very useful, as it has allowed for the identification of the strengths and weaknesses of the programme, which will contribute to carrying out further reformulation and improvement.

The research sets out three hypotheses: 1. The programme will be valued positively by the teachers in relation to a combination of qualities and usefulness (interesting, useful, educational, effective etc); 2. The teachers will assess the experience as comprehensively positive and will think of continuing to implement it in the future with other groups; and 3. The teachers will perceive positive changes in the development of the teenagers who have participated in the programme in seven dimensions of their social and emotional development related to respect for human rights and the prevention of violence (communication, social behaviour, emotions, violence, conflict resolution, pro-social human right values and psychological well-being). Furthermore, the teachers' assessment will show a high degree of convergence with that of the participating youths' perception of the effect that the experience has stimulated in them.

## METHOD

### *Participants*

The sample consists of 191 tenth-grade students aged 15-17 distributed into 9 groups from 4 schools. Out of them, 49.7% are males ( $n = 95$ ) and 50.3% are females ( $n = 96$ ). Their average age is 15.54 years ( $ST = 0.69$ ). Furthermore, the sample includes 9 teachers who implemented the intervention programme. Out of the total number of Compulsory Secondary Education schools in the Autonomous Region of the Basque Country (ARBC onwards) ( $n = 340$ ), a list was made which differentiated state schools from private schools and rural schools from urban schools. However, the four schools selected for our study are not a really representative sample of the ARBC; for the sample selection both

criteria were kept in mind, selecting an urban state school, another rural, a private urban school and another rural.

### Instruments

In order to assess the effects of the programme, 2 programme assessment questionnaires (PAQ) (CEP in Garaigordobil's (2008a) original work) were administered which were highly specific, that is to say, they were especially focused on the specific goals of the pilot intervention programme.

*Programme Assessment Questionnaire. Teacher's edition (PAQ-T) (CEP-P in Garaigordobil's (2008a) original work).* The first section of the questionnaire asks the adults who have implemented the intervention to assess 14 qualities and uses of the programme by indicating on a 1-10 scale (1 = not at all; 10 = very) the extent to which they consider the experience useful, educational or effective. Secondly, the questionnaire asks the adults to make a global assessment of the programme by responding about their degree of agreement (1 = highly disagree; 10 = wholly agree) with 11 affirmative statements about the programme. Thirdly, the questionnaire presents 43 statements and asks the adults from their subjective perception to appraise the change (1 = no change at all; 10 = a great deal) experienced by their students as an effect of the intervention on 7 factors or dimensions of their social and emotional development:

1. Intragroup communication, for example by expressing opinions, listening actively
2. Social behaviour: prosocial behaviour of helping and cooperating, respect towards other people, aggressive and rejective behaviour.
3. Emotions, expression, understanding, empathy.
4. Violence: sensitivity towards victims of violence, recognizing their suffering and supporting them, attributions of violent behaviour and consequences of violence.
5. Conflict solving; analysis and identification of techniques for the solution of human conflicts.
6. Pro-social values and Human Rights: equality, justice, freedom, solidarity, dialogue, tolerance, respect for nature, peace, ...
7. Subjective psychological well-being.

Complementarily, the PAQ-T includes open-ended questions about activities which have been more or less successful, or about any negative aspects of the experience. Reliability studies on the PAQ-T with the data of this study sample have confirmed that the internal consistency of the test is very high (Cronbach's alpha of the 14 items in the first section of the PAQ-T = .95; Cronbach's alpha of the 11 items in the second section of the PAQ-T = .84, and Cronbach's alpha of the 43 items in the third section of the PAQ-T = .93). Furthermore, the MANOVA results which compared the change estimated by the students (PAQ-S) and teachers (PAQ-T) in previous studies (Garaigordobil, 2008a) (Pillai's trace,  $F = 1.19$   $p > .05$ ) showed inter-rate reliability. PAQ-T validation studies which have compared the changed observed by the teachers in the PAQ-T and the pretest-post test experimental change produced by the programme in a set of variables (such as empathy to violence victims, racism, conflict solving strategies, positive social behaviour, and so on) have highlighted significant correlations that gives validity to the instrument.

*Programme Assessment Questionnaire. Stu-*

*dents' edition (PAQ-S) (CEP-A in Garaigordobil's (2008a) original work).* The PAQ-S contains 48 statements registered into eight social and emotional dimensions, seven from the PAQ-T and one more associated with self-concept, the image of the others and that of the human being in general. The questionnaire for students asks them to give their subjective perception and appraise the change they have undergone as an effect of the programme within a 1-10 rating scale (1 = not at all; 10 = a lot). Reliability studies of the PAQ-S conducted with the data obtained by this study (Cronbach's alpha = .98) show its high internal consistency. Validation studies of the PAQ-S which have compared the change appraised by the students in the PAQ-S and the pre-test post-test experimental change produced as an effect of the programme in a set of variables (ability to show empathy towards victims of violence, racism, positive attitudes to values, prosocial behaviour and the ability to identify causes that encourage violence) have highlighted significant correlations that give validity to this test.

### Intervention programme

The *Dando pasos hacia la paz* (Taking Steps towards Peace) intervention programme (Department of Education, University and Research of the Basque Government, 2008) consisted of one weekly 90 minute intervention session for three months amounting to a total of ten sessions, which joined together group dynamic activities and debates related to peace, violence and problem solving techniques. The sessions were led by teachers from the participating schools (form teachers or teachers of Ethics, among others), who were trained in order to carry out the intervention.

The programme sessions are distributed into two blocks of activities with differentiated goals. Block 1, "Constructing values", has six objectives:

1. To widen the perspectives of analysis and experience of the reality in the Basque Country as a multifactorial, multicultural and diverse society.
2. To identify the different types of violence and acknowledge human rights as the framework to overcome violence.
3. To acquire a humane vision of conflicts and transform them into opportunities for individual and group growth.
4. To develop attitudes and behaviour of reflection, search for alternatives and commitment with the use of non-violent strategies.
5. To give a sense of peace in all its aspects as much from the ethics of justice as well as from the ethics of personal commitment.

To advocate a life project based on a choice of values such as justice, solidarity, respect for differences, sensitivity and autonomy of criterion.

Block 2, "We're with the victims," has five objectives:

1. To generate attitudes of empathy and active listening to those who have directly suffered political or terrorist violence.
2. To develop attitudes and reflective behaviour, to seek alternatives and commitment to the use of non-violent strategies.
3. To generate the ability to dream about new relationship frameworks for victims of violence so that they can recover their trust in a society and institutions which they do not feel to be

- close enough to them.
4. To value opening attitudes to reconciliation, and
  5. To discover new ways to take care of and be fair to people who are suffering.

The programme uses a variety of group dynamics such as debates, role plays, videos, brainstorming, and so on. For example, in the “Fennis match” activity, one of the classroom walls represents the “Yes” side, whereas the opposite wall represents the “No.” The group members stand in the middle of the class-room and the teacher reads a statement aloud. The members of the group must move to one of the class-room walls, depending on the degree of agreement with the content of the statement. Later on the teacher asks the participants why they have moved to that particular wall. At the end, all of them try to agree on a statement which may provide consensus on its content. This technique allows debating statements such as “The use of violence is sometimes legitimate,” “Some people have been attacked by ETA because they must have done something,” “the death penalty should not be eliminated because what goes around comes around.”

One more activity of the programme consists of watching a video in which an ETA member can be seen to plant a bomb which accidentally kills his baby sister. The debate turns around the consequences of violence and the identification of non-violent strategies to solve human conflicts.

In another activity, testimonies by victims of political or terrorist violence, such as relatives of murdered people are listened to, then the situation is role played and a debate gives to thinking about violence in the Basque Country, about the consequences of hatred and violence, and the importance of dialogue, forgiveness, repentance and empathy to solve conflicts.

### Procedure

First of all, the *Dando pasos hacia la paz* (Taking Steps Towards Peace) intervention programme was applied to nine experimental groups. Ten intervention sessions were given to each group. Secondly, when the intervention process finished, the programme assessment questionnaire was administered to the adolescents who had gone through the experience (PAQ-S) and to the adults who had directed it (PAQ-T). Before using the programme, there were meetings in the four schools with the headmasters and teachers of all the groups. After presenting the project, the putting into practice of the programme and participating in it received unanimous support. The decision was taken with the agreement of the parents of the teenagers involved in the project after having arranged a meeting in which they were informed about the work that was going to be carried out. The adolescents were asked to sign a consent form.

## RESULTS

### Teachers’ assessment of the qualities and usefulness of the programme

The PAQ-T asked the teachers to assess the experience they had developed in their group as regards qualities and usefulness. The results obtained (means and typical deviations), were ordered according to their degree of appraisal, are shown in Table 1.

	<i>M</i>	<i>SD</i>
Training oriented, educational	9.00	1.15
Motivating	9.00	0.81
A well used time	9.00	1.15
Effective, positive for the group members	8.75	0.95
Interesting	8.75	1.25
Renovating	8.50	1.73
Useful	8.50	1.00
Utopian but positive	8.50	1.73
Practical	8.25	1.50
Satisfactory	8.00	1.63
Complete	7.25	2.21
Realistic	7.00	0.00
Efficient, as it has met the goals	6.75	1.25
Easy to develop	6.25	2.36
<b>Global</b>	<b>8.10</b>	<b>1.17</b>

*n* = 9

**Table 1. Teacher’s assessment of the qualities or usefulness of the programme**

The results of assessing 14 qualities of the intervention programme (See Table 1) show its good valuation. On a 1-10 rating scale, the mean in global assessment was 8.10, and the means of the assessment of the items range between 6.25 and 9. Thus, the qualities and usefulness of the programme have been graded quite highly. The teachers considered this experience as having been training oriented, educational, motivating and as well as time well used (*M* = 9). It was also perceived as an effective and positive experience for the group members, interesting, renovating, useful, utopian but positive, practical and satisfactory (*M* = 8 - 8.75). Finally, even though the level of assessment was somewhat lower (*M* = 6.25 - 7.25), the group of teachers considered that the programme had been full, realistic, efficient in the sense that the programme objectives were achieved, and easy to develop.

### Teachers’ global assessment of the programme

The PAQ-T asked the teachers to give their degree of agreement with 11 affirmative statements referring to the programme. The results obtained (means and standard deviations), are shown in Table2.

	<i>M</i>	<i>SD</i>
I think that it is important to carry out school activities such as the ones in the programme so that the students may find alternatives to violent behaviour and be encouraged to develop positive social values such as solidarity or equality.	10.00	0.00
I am interested in going into the issue in depth.	9.25	0.95
This experience has been positive for me as a professional educator and as a person	9.00	1.15
I would recommend other professional educators to apply the experience.	8.75	1.50
I will keep applying the experience to other groups in the next school year.	8.75	2.50
The training received to apply the programme has been adequate.	8.75	2.50
There has been enough material.	8.50	1.73
The material has been adequate.	8.25	1.70
It should be applied to all the school groups and in all schools	8.00	2.44
This experience has promoted positive changes in my relationship with the students in my group, that is, I have a more positive image of them, more communication with them, or more knowledge about them.	7.50	0.57
The general conditions have been adequate.	6.50	0.57
<b>Global</b>	<b>8.27</b>	<b>0.92</b>

*n* = 9

**Table 2. Teachers’ global assessment of the programme**

The results of assessing the 11 statements on the programme were very positive (See Table 2). On a 1-10 scale, the mean scores range between 6.50 and 10, and the global mean score is 8.27. Thus, the programme's level of assessment was very high. First of all, the adults considered it important to carry out activities in schools such as the ones undertaken in the programme in order for the students to seek alternative behaviour to violence and to encourage them to develop positive social values such as solidarity or equality, etc ( $M = 10$ ). Secondly, ( $M = 9 - 9.25$ ) the participating adults state that the experience had been positive for themselves both professionally and personally speaking and that they were interested in going deeper into the issue. Thirdly ( $M = 8.75 - 8$ ), they say the following: 1. They recommended other professionals to undergo the experience. 2. They intended to keep implementing it in the following school year with other students. 3. The training received to put the programme into practice had been adequate. 4. There was enough material and 5. The programme should be used in all the groups in their schools and implemented in all schools.

Even though they assess it lower ( $M = 7.5 - 6.5$ ), they state the following: 1. The experience had promoted positive changes in relation to their students, namely more communication, more knowledge about them, and 2. The general conditions had been adequate.

**Teachers' assessment of the students' social and emotional changes**

The PAQ-T asked the teachers to assess the changes experienced by their students as a result of the programme. A total of 43 statements were assessed, which centre on seven dimensions of social and emotional development. The results obtained are shown in Tables 3 and 4, which illustrate the means and standard deviations obtained from each of the statements and from each one of the seven dimensions assessed.

The results obtained confirm (See Tables 3 and 4) that the programme brought about positive changes in the adolescents from the teachers' subjective perception, given that, on a 1-10 scale, all the statements assessed show mean scores ranging between 5.25 and 8.75. Consequently, the teachers observed that their students had a medium-high level of change in a set of factors related to social and emotional development and education in human rights. When the means obtained in each of the seven dimensions assessed by the PAQ-T were analyzed (See Tables 3 and 4), a high degree of change was confirmed in factors related to the following: 1. Violence: sensitivity towards victims, attributions and consequences of violent behaviour. 2. Pro-social values and human rights. 3. Intra-group communication: listening and expression. 4. Emotions: expression, understanding, empathy. In addition to these changes, a medium level of change can be seen in factors related with: 5. Social conduct: pro-social or aggressive behaviour. 6. Conflict solving: analysis and resolution. 7. Subjective psychological well-being.

	<i>M</i>	<i>SD</i>
<b>Inter-group communication: expression and listening</b>	<b>7.21</b>	<b>0.41</b>
More information on other people's perceptions	8.00	1.41
More awareness about perceptions of self, the perceptions they have about reality and their stereotyped feelings	6.75	0.50
More participation of the group members in the sessions	7.25	0.95
More expression of opinions by the group members	7.50	0.57
More group cohesion, more union among the group members	6.75	0.95
Assertive communication, that is, greater expression of opinions, thoughts or feelings without humiliating or hurting the others.	7.50	0.57
An increase in the acceptance of other group members	7.25	0.50
Better listening and development of active listening habits	6.75	0.95
<b>Social behaviour: pro-social and aggressive behaviour</b>	<b>6.90</b>	<b>0.84</b>
More behaviour towards helping among group members	7.00	1.41
An increase in the cooperative ability of the group	6.75	0.50
More flexible and respectful attitudes and better consideration of others in the debates generated by the activities or in their general behaviour	6.25	1.25
The self-control of their impulses and less aggressive expressions	7.25	0.95
Decrease in rejection behaviour among the group members.	7.25	0.95
<b>Emotions: expression, understanding, empathy</b>	<b>7.15</b>	<b>0.61</b>
They have learnt to differentiate feelings that help in life (love, solidarity) from negative feelings (anger, jealousy, greed)	7.50	1.00
Increased empathy and interest in other people's feelings	7.00	1.63
More expression of feelings	7.00	0.81
Ability to analyze causes, consequences and ways to cope with various emotions	6.75	0.95
They have learnt more adequate ways to express negative feelings such as sadness, anger or fear.	7.50	0.57
<b>Violence: sensitivity towards victims, attributions and consequences of violent behaviour</b>	<b>7.72</b>	<b>0.48</b>
More awareness of the negative consequences always brought about by violent behaviour	7.50	1.29
Increased knowledge about the concept of violence and ability to differentiate types of violence	6.75	1.70
Belief that the victims do not have any responsibility in what has happened to them and that anybody can be the victim of someone else's violence	8.00	0.81
Increased sensitivity to victims of violence in general, victims of any kind of violence (at school, political, sexual, racist or structural)	8.75	0.95
Increased sensitivity towards the victims of classroom violence at school	7.50	0.57
Ability to recognize or identify worldwide situations of poverty and inequality as violence	7.25	1.50
Importance of recognizing the suffering of victims of violence	8.25	0.95
Importance of showing support to victims of violence	7.75	0.95
Increased sensitivity to victims of political violence, such as those attacked by ETA.	7.75	0.50

*n* = 9

**Table 3. Means and standard deviations of the teachers' appraisal of changes in communication, social behaviour, emotions and violence**

	<i>M</i>	<i>SD</i>
<b>Conflict solving: analysis and resolution</b>	<b>6.78</b>	<b>1.57</b>
They freely express different thoughts or points of view within the group even when they believe the others do not agree or are not going to share this opinion	7.25	1.50
They respect more different points of view	7.00	0.81
Increased ability to discuss and debate human problems or conflicts	7.00	1.41
Wish to learn more procedures and techniques to tackle debates on a number of conflicts	7.00	1.15
When they have a conflict, they try to show themselves as part of the conflict, think over their situation and analyze how they can cope with it in a constructive way	5.75	2.63
Active and positive interventions to help when other classmates have a problem or conflict	7.00	1.41
Increased ability to positively take part in situations of conflict or aggression when others in the group have conflicts	6.75	2.21
Increased level of commitment when conflicts arise	6.50	2.38
<b>Pro-social values and human rights</b>	<b>7.60</b>	<b>0.75</b>
Knowledge widened on the concept of peace and associated values such as equality, ability to stand in someone else's shoes, solidarity, freedom or justice.	8.25	0.50
Reflection and more awareness of the need to live on the bases of pro-social values such as equality, justice, freedom, solidarity, dialogue, tolerance, respect for nature or peace.	7.25	1.25
More awareness that the Basque Country has people with a variety of beliefs and values and that a common culture should be constructed by all and for all	7.50	1.00
Increased ability to recognize discriminating, excluding attitudes towards other human beings due to race, gender, religion or the belonging to another group.	7.75	0.95
Positive appraisal that the social and political reality that we are living in can be discussed at school, and that this reflection can help to have a commitment with society	8.00	0.81
The group members can understand the negative consequences of aggressive behaviour, both physical and psychological	7.50	1.29
The group members attitudes are more tolerant, that is to say, they accept people's opinions even though they do not agree and so put up with them	7.00	0.81
<b>Subjective psychological well-being</b>	<b>5.25</b>	<b>2.21</b>

*n* = 9

**Table 4. Means and standard deviations of the estimation of the changes in conflict solving, pro-social values, human rights and well-being or pleasure as assessed by teachers**

**A comparative analysis of teachers' and students' programme assessments**

The MANOVA results, Multivariate Pillai's Trace,  $F(1,198) = 1.83$   $p > .05$ , comparing the perception of change undergone by the teenagers who had experienced the programme (PAQ-S) and the perception of the teachers (PAQ-T) who implemented it do not show significant differences. Therefore, a high level of convergence is to be seen in the changes observed by both sources. The means, standard deviations and variance analysis were calculated (ANOVAs) for each dimension and shown in Table 5.

	Teachers ( <i>n</i> = 9)		Adolescents ( <i>n</i> = 191)		<i>F</i> (1,198)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Pleasure or subjective psychological well-being	5.25	2.21	6.16	2.30	0.61
Intra-group communication: expression and listening	7.21	0.41	5.25	1.97	3.42
Social behaviour: pro-social and aggressive behaviour	6.90	0.84	4.79	2.31	3.25
Emotions: expression, understanding, empathy	7.15	0.61	4.89	2.19	4.16 *
Violence: sensitivity to victims, attributions and consequences of violent behaviour	7.72	0.48	5.42	2.24	4.16 *
Conflict solving: analysis and resolution	6.78	1.57	4.88	2.23	2.82
Pro-social values and human rights	7.60	0.75	5.07	2.12	5.62 *

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

**Table 5. Means, standard deviations and variance analysis of the changes in the seven dimensions of social and emotional development as assessed by teachers and students**

The results (See Table 5) stress the lack of significant differences between the evaluation of change estimated by the adults and the teenagers in 4 dimensions: psychological well-being, intra-group communication, social behaviour and conflict solving. However, differences were noticed in 3 dimensions: emotions, violence and pro-social factors – human rights, with higher scores in the adult assessment.

**Qualitative information on the programme: strengths and weaknesses**

From the qualitative answers provided by the teachers (PAQ-T) who implemented the programme, we can arrive at the following conclusions: 1. In relation to the most interesting activities in the programme, the level of agreement was very high in adults; in particular, the 'tennis match', the role-play about violence victims, listening to testimonies and the 'ball of wool' all stand out. 2. In relation to the negative aspects of the programme they would change, there is more variety in their observations. Nevertheless, it is worth drawing attention to the conceptual-theoretical activities and also to the time pressure due to the difficulty of integrating the programme within the lesson timetable of each school.

Among the positive changes observed in the teenagers, the teachers highlight that the sessions created a positive environment, a tendency to listen to one another, to listen more and to share their own experiences; encouraged the group members to get to know and respect one another more, and to understand, more in depth, the concept of empathy and the idea that violence should not be responded to by violence. Furthermore, the teachers believed that it was important to have discussed political conflict and the victims, that is to say searching for empathy and for adequate communication, going deeper into them, by taking human rights as the basis.

**DISCUSSION**

The study sought to assess the effect of the *Dando pasos hacia la paz* (Taking Steps towards Peace) intervention programme by exploring the teachers' subjective perception on the following: 1. The qualities and usefulness of the programme implemented. 2. The com-

prehensiveness of the experience. 3. The programme's effect on 7 dimensions of teenage social and emotional development. To do that, their assessment was compared to the one carried out by the students who had experienced the programme. Furthermore, the study analyzes the strengths and weaknesses of the programme by means of an open-ended assessment carried out by the teachers.

First of all, the results have confirmed a means in the global assessment of the 14 qualities and the usefulness of the programme which can be considered quite high ( $M = 8.10$ ). Therefore, the results confirm the validity of Hypothesis 1. Secondly, the results obtained when the 11 positive statements on the programme were assessed by the adults who implemented the intervention were very positive ( $M = 8.27$ ) and indicate a very high level of assessment. Therefore, Hypothesis 2 is ratified. However, it should be said that although the teachers' assessments have been high, the usefulness of the programme cannot be affirmed only on this basis, as these statements have not being compared with any other contrasting source.

Thirdly, the results suggest that the adults who have directed the intervention have observed a medium-high level of change in their students ( $M = 5.25 - 8.75$ ) in a set of factors related to social and emotional development and education in human rights (communication, social behaviour, emotions, violence, conflict solving, pro-social values-human rights and psychological well-being).

From the teachers' subjective perspective, the programme has developed in the participating teenagers a *high or superior* level of change in factors related to: 1. *Violence*: by increasing sensitivity towards victims of violence and towards the importance of acknowledging their suffering and declaring support for them, by enhancing the internal attributions of violent behaviour and the belief that victims are not at all responsible for what has happened to them, and by increasing the ability to identify and differentiate different types of violence and to analyze the consequences of violent behaviour. 2. *Pro-social values and human rights*, (peace, tolerance, justice, equality, solidarity or freedom, etc), increasing the positive considerations of pro-social values and the importance of respect for human rights, improving the ability to recognize attitudes of discrimination, improving tolerance towards other people and awareness that in the Basque Country there are people with a variety of beliefs and values, and thus the need to construct a common culture which includes everybody. 3. *The ability for intra-group communication*, by increasing the ability to express thoughts and beliefs, to listen to others, and to accept different points of view, all of which enhances social cohesion. 4. *Emotions*, by increasing the ability to use adequate emotional expression, to understand the reasons, consequences and ways to cope with negative emotions and to feel empathy in order to become cognitively and emotionally aware of the emotional states of other human beings.

Furthermore, the assessment confirmed a *medium* level of change in factors related to the following: 1. *Social behaviour*, by increasing the pro-social behaviour of assistance to, cooperation with and consideration towards other people, as well as decreasing aggressive behaviour. 2. *The ability to analyze and solve conflicts*, increasing the capacity to express different points of view, the respect for other points of view as well as the

techniques to discuss and solve interpersonal conflicts in a constructive way. 3. *Psychological well-being*, associated with positive, pleasant feelings experienced during the course of the programme.

The assessment of the teachers showed a medium level of convergence with the estimation of the changes that the teenagers had as a result of the stimulus that the experience had stimulated in them, especially in 4 dimensions (psychological well-being, intra-group communication, social behaviour, emotions and conflict solving). Thus, the results obtained confirm Hypothesis 3, which postulated that the programme would stimulate positive changes in 7 dimensions of social and emotional development both from the adults' and the teenagers' perspectives.

Finally, it is also worth noting that the qualitative information on the programme provided by the adults at the end of the intervention has been very useful, as it has allowed for the identification of the strengths of the programme (keeping some specific activities, especially the ones focusing on the victims of political violence, debates and those activities improving self-concept); as well as the programme's weaknesses (heavily theoretical or conceptual activities, and the time organization of the programme within the school schedule).

The overall results indicate a favourable assessment of the programme and point in the same direction as other studies which have evaluated the effects of intervention programmes addressed to preventing or reducing violent behaviour in school contexts (Dawn and Shaughnessy, 2005; Diaz-Aguado, 2005; Dole, 2006; Farrell, Meyer and White, 2001; Garaigordobil, 2004, 2008b; Garaigordobil, Maganto and Etxeberia, 1996; Roberts, White and Yeomans, 2004; Segawa, Ngwe, Li and Flay, 2005; Simon *et al.*, 2008; Slone and Shoshani, 2008), in health care clinical contexts (Chandy, 2007; Freiden, 2006) and in community contexts (Sege, Licenziato and Webb, 2005).

The study confirmed that, from the teachers' and students' perspectives, the programme had stimulated an improvement in a number of factors of social and emotional development associated with respect for human rights, positive social behaviour and the prevention of violence, having practical implications, as it provides an intervention tool to enhance personality development. The assessment results permit the suggestion of: 1. The application of the programme to all the schools in the Autonomous Region of the Basque Country. 2. Incorporating activities or debates in the programme which permit the reinforcement of the thesis that, some ideas, some ideologies are negative because they lead to conduct which jeopardize human rights. 3. Implementing specific programmes for all educational stages. 4. Contextualizing the intervention in terms of education in values and preventing violence away from the classroom, that is to say, in the school, in the family and in society.

On the basis of the study by Farrell *et al.* (2001), which assessed the effect of a violence prevention programme combining a problem solving socio-cognitive model and specific abilities to prevent violence, it is worth emphasizing that future studies should measure intervention effects on those participants who used to display a lot of violent behaviour or a high level of attitudes favouring violence before starting to participate in the programme.

The data emphasizes the idea that applying programmes during adolescence can be very useful, as it is a favourable stage in developing a number of resources and competences such as trust, connection with others or empathy, among others. Adolescence offers a valuable opportunity for change, as it is a developmental period that may affect the course of current and future relationships. Furthermore, if the conclusions of the studies by Chandy (2007) and Sege *et al.* (2005) are borne in mind, it is interesting to propose including parents in further implementations of the programme, in order to reinforce its benefits.

Among the research limitations, it is worth pointing out that even though this work has actually studied the effects of the programme on individual psychological characteristics such as communication, social behaviour, empathy, pro-social values, attitude to violence, and human rights, etc, we should not forget about the psycho-social focus on violence, as violent groups include people with very different personalities.

In order to analyze and account for the social and political phenomenon of terrorism, not only should we bear in mind social determining factors such as poverty, or psychological factors, such as personality traits, but it is also essential to take into account a psycho-social analysis, that is, the group dimension. From the perspective of the psycho-social approach, de la Corte, Kruglanski, de Miguel, Sabucedo and Díaz (2007) who conceptualize terrorism on the basis of the 7 following principles: 1. Terrorism is a method of social and political influence. 2. The attributions of terrorists are modelled by social interaction processes. 3. Terrorist organizations are analogous to other social movements. 4. Terrorism is possible only when the terrorists and their allies have access to a number of essential given resources. 5. The decisions adopted by terrorists respond to ideologized collective motives. 6. Terrorist actions and campaigns respond to strategic reasons. 7. Terrorist activities partly reflect the internal characteristics of their organizations.

Although the programme adopts a psychological and psychosocial perspective of the phenomenon as regards the activities that it consists of and the corresponding reflections on them, the assessment of the effects of the programme focuses on the individual teenagers' psychological changes, especially on variables that are considered to be able to positively affect the prevention of violence. The reason is that increasing communicative abilities, enhancing active listening allows seeing other points of view, empathizing with victims of violence, or analyzing the consequences of violence makes it possible to raise expectations and to put a damper on teenage violent behaviour and on their incorporation into social movements that encourage violence.

One more limitation of the study is related to the assessment methodology used. Without knowledge about the previous level of competence and their specific assessment, it is not possible to know whether or not they have changed, as the participants' interpretations, carried out later, can be very much influenced by subjective factors and by a certain amount of social desirability. Furthermore, it is important to bear in mind that, together with a measure of the students' previous competences, it would also be desirable to have a control group that these measures could be contrasted with. On the basis of the limitations pointed out, future research stud-

ies should contrast the effects of the intervention by means of behavioural assessment instruments which allow for the exploration of behavioural changes; with a variety of informants, such as parents or teachers, among others, and with a pre-test post-test methodology with control groups.

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## **Validation of the Dating Violence Questionnaire, DVQ (*Cuestionario de Violencia entre Novios, CUVINO*) among Spanish-speaking youth: Analysis of results in Spain, Mexico and Argentina**

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### **ABSTRACT**

Violence that appears in couple relationships has become a topic of great importance during the past few years, as preventive interventions have multiplied. The suitability of these initiatives is closely related to the assessment tools used to detect the population's needs; however, little emphasis has been placed on developing specific questionnaires for adolescents and youth, especially in Spanish. This study was based on a sample of 5,170 people from Spain, Mexico and Argentina who answered the *Cuestionario de Violencia de Novios, CUVINO* (*Dating Violence Questionnaire, DVQ*), a Spanish language tool which assesses victimization and was developed for youth. The factor analysis yielded eight types of abuse (*Emotional Punishment, Coercion, Detachment, Physical, Gender-Based, Humiliation, Instrumental and Sexual*), with an explained variance of 51.3% and alpha values ranging between 0.58 and 0.81 for reliability. There were differences in the frequency of victimization in Spain and Latin America, while the abuse pattern was similar in both samples. The importance of the DVQ for guiding prevention programs in the future is also discussed.

*Keywords:* dating violence, couple violence, maltreatment, factor analysis.

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### **INTRODUCTION**

Couple violence has constituted a very interesting object of study over the past decade. The increase in the number of publications dealing with such terms as domestic violence and/or intimate partner violence has been significant (Rodríguez-Franco, López-Cepero and Rodríguez-Díaz, 2009), though it is true that the number of studies concerning couples of younger ages has been smaller (López-Cepero, Rodríguez-Franco, Rodríguez-Díaz and Bringas, 2010). The focus of the investigative effort is consistent with other developments of State agencies and departments, like the appearance of specialized victim assistance centers (such as the toll-free telephone number 016), the implementation of a new legal protection system (Organic Act 1/2004), and many other measures.

The developments mentioned above reveal the importance of primary prevention, which is an attempt to ensure that the problem does not appear. In this regard, the assessment takes on enormous importance, since we can only intervene systematically in what we detect. However, professionals frequently experience difficulty in choosing solid assessment instruments to guide the subsequent preventive work (Recio, Cuadrado and Ramos, 2007). Assessing the prevalence of violence within a couple is a tough task that is done with several methods (with regard to the sampling, the time span of the assessment, the types of maltreatment considered, the environment where the study is conducted, etc.). These differences clearly influence the results, thus making it impossible to talk about *maltreatment* in singular, since there are a number of approaches and proposals (or concepts of *abuses*) implicit in literature (Heise and García-Moreno, 2002). On a classification level, it is possible to find maltreatment categories referring to physical aggression (hitting, kicking, beating...); psychological abuses (intimidation, contempt, humiliation...); forced sexual relations or acts; controlling behavior (isolation, control of activities, restrictions on access to information and assistance); and a long list of etceteras. However, these categories may be subdivided

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into more concrete ones or may not be included in certain evaluation instruments, making it difficult to compare the results.

In her 2005 work, Langhinrichsen-Rohling pointed out the appearance of the *Conflict Tactics Scale* (Straus, 1979) as one of the main landmarks in the development of couple violence. According to this author, this contribution was the first common instrument to assess aggression occurring during interpersonal cohabitation on a quantitative basis. Later, a great number of instruments were developed and validated with similar objectives. In a recent work (López-Cepero, Rodríguez-Franco, and Rodríguez-Díaz, under preparation), as many as 42 validated evaluation instruments were identified, and several conclusions of interest for this study were drawn. The first of these conclusions refers to the high variability of the number of subscales (1 to 17) taken into account in these tools; this characteristic makes it impossible to explain or organize data obtained on the basis of only one empirical corpus, in spite of the fact that *abuses* are assessed in all cases. On the other hand, although the most frequent classification in the literature is that which divides maltreatment into physical abuse, psychological abuse, and sexual abuse (for example, Rodríguez-Carballeira, Almendros, Escartín, Porrúa et al., 2005; Rodríguez-Franco et al., 2009), the revision revealed that the results from factor analyses rarely matched this triad. There are many reasons for this: first, factors provide a structure for the items included in the assessment instrument, and thus the initial selection of items limits the aspects that can be detected. Another reason that results do not match is because in certain solutions, some items are not assigned to the factor that would correspond from the theoretical point of view. Finally, we detected studies in which different details of some of these three maltreatment categories are distributed among several categories.

In the revision, we thus determined that there are a wide variety of conceptualizations which are closely related with their assessment methods. As a result, it is necessary to analyze in detail the concept of maltreatment (or abuses) which each instrument entails in order to choose an option that reflects our objectives and population. When addressing the issue of how to create prevention programs for Spanish-speaking youth, we divided the analysis into three questions: which instruments have had the greatest impact on research and offer the most assurance of validity and reliability; which instruments have been validated in the Spanish-speaking population, and which have been designed (or at least validated) for the young.

There are many validated instruments, but two are worthy of note due to the number of validation studies published on them and because they are well-established. In terms of these validated instruments, Straus's CTS (1979) has been the most popular – so popular, in fact, that the author himself admitted that his improved version, the CTS-2, could not replace its predecessor (Straus, 2008). The CTS offers information on only two forms of aggression, physical and verbal abuse, while the CTS-2 included two new subscales: sexual coercion and the seriousness of the injuries (Straus, Hamby, Boney-McCoy y Sugarman, 1996). On the other hand, the *Index of Spouse Abuse* (ISA), by Hudson and McIntosh (1981), the other strong basis for a considerable number of subsequent questionnaires, contains two subscales (physical and non-physical), which are very

similar to the categories of the original CTS.

The second question raised refers to the validation of the instrument in the Spanish language. Nine of the sixty-one validation articles consulted in the above-mentioned revision used Spanish-speaking samples obtained in their country of origin (three in Mexico, six in Spain). Tests that met this condition (only the validation studies in Spanish are cited) were: CTS (Muñoz-Rivas, Andreu, Graña, O'Leary et al., 2007), CTS-2 (Calvete, Corral and Estévez, 2007; Mora, Natera, Tiburcio and Juárez, 2008), ISA (Plazaola-Castaño, Ruiz-Pérez, Escribà-Agüir, Jiménez-Martín et al., 2009), *Maltrato a la Mujer por Parte de su Pareja* (Maltreatment of Women by their Male Partners) (APCM) (Matud, Carballeira and Marreiro, 2001), *Inventario de Abuso Psicológico en Relaciones de Pareja* (Inventory of Psychological Abuse in Couple Relationships) (IAPRP) (Calvete, Corral and Estévez, 2005), *Conflicts in Adolescent Dating Relationship Inventory* (CADRI) (Fernández-Fuertes, Fuertes and Pulido, 2006), *Index to Measure Violence Against Women –IMVAW –* (Castro, García, Ruiz and Peek-Asa, 2006), and *Encuesta de Violencia/Índice de Severidad en Violencia de Pareja* (Violence Survey/Index of Severity in Couple Violence) –EV/ISPV– (Valdez-Santiago, Híjar-Medina, Salgado de Snyder, Rivera-Rivera et al., 2006). Thus, the CTS-2 was the only instrument validated for Spain and Mexico.

Lastly, the third question refers to which instruments contain data on young and adolescent couples. A considerable percentage of the studies consulted assessed young people at some point during the validation process, though they were not focused on getting to know the reality of this population group; university students were used because this type of sample is easily accessible to most researchers. Regarding the instruments already described, there are studies conducted with university samples for CTS and CTS-2, and specific validations for adolescent samples in only one questionnaire, the CADRI (Fernández et al., 2006; Wolfe, Scott, Reitzel-Jaffe, Wekerle et al., 2001).

Based on the results obtained from the revision, it is hard to decide which is the best tool to use with the Spanish-speaking population. CTS and CTS-2 appear as two commonly used instruments. The CTS-2 has an added advantage: it was validated for both the Spanish and Mexican samples, which makes it preferable to CTS. However, none of the instruments was specifically designed for the young, and validations done with this age range seem to be due to the fact that university students are more accessible (as opposed to researchers' interest in getting information on people's first experiences in a couple). Therefore, the clearest candidate of those explored seems to be the CADRI: this instrument offers six subscales that cover (and improve) the physical, psychological and sexual criteria and it is designed for adolescents and the young. However, the validation performed in Spain provides data on the acts of aggression committed, not on the victimization experience – despite the fact that the original version by Wolfe et al. (2001) offers both data. Therefore, the choice depends on whether the intention is to focus on the aggressor role or on the victim role in prevention. Ultimately, we should consider that it is a translated instrument (i.e. not developed in Spanish), and that it was not validated with a sample taken directly from Mexico, but from people who migrated to the United States.

Over the last few years, the research team has developed the Dating Violence Questionnaire, DVQ (*Cuestionario de Violencia de Novios*, CUVINO), which was created in Spanish and is specifically aimed at assessing violence suffered within couple relationships. Although it can be used for couples of any age, it was designed on the basis of information provided by adolescents and youth of both sexes, and has been revised through pilot experiments carried out among the young population (courses, workshops, activities, etc.). However, there is only one validation study available (Rodríguez-Franco, Antuña, Rodríguez-Díaz, Herrero et al., 2007). Thus, the purpose of the article is to offer data about the structure and reliability of the CUVINO to assess interpersonal relations of young dating couples from Spain, Mexico and Argentina. Based on that, the new possibilities that the CUVINO offers are discussed with relation to the design of new prevention initiatives among Spanish-speaking youth, since this instrument provides the maltreatment pattern that can be used to come up with a new proposal of couple violence assessment. We expect that this will be useful to prevent and deal with abusive emotional interpersonal relations within this reality.

**METHOD**

**Participants**

The study covered a total of 5,170 individuals of both sexes who had received formal schooling and who were recruited at different study centers of Spain, Mexico, and Argentina. In total, 2,034 (39.3%) were students who had not yet entered the university (professional training or modules, secondary school or prep school, depending on the country of origin), while 3,140 (60.7%) were attending college at the time they answered the CUVINO. People were surveyed in the classroom. The mean age of the total sample was 19.03 years (SD = 2.46 years), with a minimum of 15 and a maximum of 26. Distribution by sex and age for each country is shown on Table 1.

	Spain (N=2934)	Mexico (N=1767)	Argentina (N=473)
Women	2017 (68.7%)	1057 (59.8%)	358 (75.7%)
Men	917 (31.3%)	710 (40.2%)	115 (24%)
Mean	18.69	18.83	21.89
Age	(SD=2.29)	(SD=2.26)	(SD=2.34)

**Table 1: Sex and age of participants, according to their country of origin**

These individuals participated voluntarily; the only condition was being in a couple relationship for at least one month before the assessment, no gathering data from people who did not.

**Instrument**

The study used the Dating Violence Questionnaire (CUVINO) (Rodríguez-Franco et al., 2007), an assessment tool that includes behaviors which constitute violence in adolescent couple relationships.

It consists of 42 behavioral indicators that should be answered on a 5-point Likert scale (between 0 and 4); additionally, two groups of questions were included. In the first place, the individuals who answered yes to the question *Have you felt maltreated?* also informed when the relationship started, its duration, attempts to end the relationship, the level of contact with the aggressor, his/her knowledge about dating violence in other couples, etc. Likewise, each of the questionnaire items required information on the degree of distress suffered by the victim as a result of such behaviors if they had in fact occurred, or a guess as to how such behaviors would upset the victim if they did occur. This second type of response was structured into a Likert scale on intensity. These additional data have not been presented in this study, as their analysis would require a separate article.

**Procedure**

The analysis of the data was carried out with the statistical package SPSS 15.0 for Windows. The procedure consisted of several successive steps. In the first place, the factorial structure of the questionnaire was determined by conducting a factor analysis of the main components, with varimax rotation. The following criteria were used for the extraction and assignment of factors: self values equal to one or higher, factorial saturation on .35 or higher, and variance explained by a factor of 4% or above. In those cases in which an item was assigned to more than one factor, the reliability of all factors was analyzed to find out which of the possibilities offered more psychometric guarantees; thus each item was ultimately assigned to the factor in which it offered the best reliability conditions. Factors were labeled by the authors, who took into account both the contents of the different behavioral indicators that form each factor and the paper published by Rodríguez-Franco et al. (2007). Later, a correlational analysis was performed among the direct scores of the factors that make up the factorial structure of the questionnaire. Finally, an analysis of the variance (ANOVA) was conducted to find out the mean levels per factor for the Latin American and Spanish subsamples.

**RESULTS**

The rotated solution offered 8 factors, consisting of 3-7 items each, and converged in 8 iterations. The explained variance percentage was 51.30%, with values ranging between 4.3% and 8.5% for each factor. Table 2 contains a description of the results, including the label chosen, the number of items included in each factor, the explained variance percentage in each of them, and the Cronbach's index of reliability of each of them. The structure found was similar to that proposed by Rodríguez-Franco et al. (2007), except that in item 20 (*Has he/she thrown blunt instruments at you*), which in the first study saturated the *Instrumental Violence* factor, was assigned this time to the *Physical Violence* factor. Table 3 shows the weight assigned to each of the items.

Rodríguez, L.; López-Cepero, J.; Rodríguez, F. J.; Bringas, C.; Antuña, M. A. & Estrada, C.: *Validation of the Dating Violence Questionnaire, DVQ (Cuestionario de Violencia entre Novios, CUVINO) among Spanish-speaking youth: Analysis of results in Spain, Mexico and Argentina*

Factor	Label	No. of items	Items included	Variance explained	Alpha
1	Detachment	7	6,14,22,30,32,33,37	8.55%	0.796
2	Humiliation	7	7,15,23,31,36,40,41	7.56%	0.818
3	Sexual	6	2,10,18,26,34,39	7.35%	0.770
4	Coercion	6	1,9,17,25,38,42	6.28%	0.739
5	Physical	5	5,13,20,21,29	6.28%	0.700
6	Gender- Based	5	3,11,19,27,35	5.73%	0.743
7	Emotional Punishment	3	8,16,24	4.67%	0.681
8	Instrumental	3	4,12,28	4.33%	0.588
<b>Total</b>		<b>42</b>		<b>51,30%</b>	<b>0.932</b>

Table 2. Name, items, explained variance, and Cronbach's Alpha for each factor

	Component							
	1	2	3	4	5	6	7	8
32) Stops talking to you or disappears for several days, without any explanation, to show his/her annoyance	.628							
6) Is a good student, but is always late at meetings, does not fulfill his/her promises, and is irresponsible	.622							
14) Does not acknowledge any responsibility regarding the couple relationship or what happens to both of you	.621							
30) Has ignored your feelings	.618							
37) Has refused to help you when you were in real need	.577							
33) Lies to you to manipulates you	.558							
22) Imposes rules on the relationship (days, times, types of outings), at his/her exclusive convenience	.433							
41) Ridicules or insults you for the ideas you uphold		.667						
40) Has ridiculed or insulted your beliefs, religion or social class		.600						
23) Ridicules your way of expressing yourself		.579						
15) Criticizes you, underestimates you, or humiliates you		.527						
36) Insults you in the presence of friends or relatives		.495						
31) Criticizes you, insults you, or yells at you		.465						
7) Humiliates you in public		.458						
26) You feel forced to perform certain sexual acts			.749					
2) You feel compelled to have sex in order not to have to explain why you don't want to			.655					
18) Has treated you as a sexual object			.641					
39) Forces you to strip even if you don't want to			.638					
10) Insists on touching you in a way which you don't like and don't want			.618					
34) Has not taken into account your feelings about sex			.444					
38) Invades your space				.612				
1) Puts your love to the test, setting you traps to find out if you cheat on him/her, loves him/her, or are faithful				.611				
17) Threatens to commit suicide or hurt himself/herself if you leave him/her				.577				
25) Has physically stopped you from leaving				.576				
9) Talks to you about relationships he/she imagines you have				.575				
42) You feel you can't argue with him/her because he/she is almost always annoyed at you				.361				
5) Has beaten you					.704			
13) Has slapped your face, pushed or shaken you					.678			
21) Has hurt you with some object					.646			
20) Has thrown blunt instruments at you					.587			
29) Damages precious objects of yours					.378			
19) Has ridiculed or insulted women or men as a group						.681		
3) Mocks women or men in general						.667		
11) Believes that the opposite sex is inferior, and says that women should obey men (or vice-versa)						.598		
27) Has made fun of you or discredited you as a woman/man						.576		
35) You feel he/she unjustly criticizes your sexuality						.374		
8) Refuses to have sex with you or give you affection to express his/her anger/annoyance							.578	
16) Refuses to give you support or affection as punishment							.543	
24) Threatens to abandon you							.497	
4) Has stolen from you								.768
12) Takes your car keys or money away from you								.682
28) Made you go into debt								.509

Table 3. Factor solution rotated by means of Varimax method, with saturation values above 0.35

Table 4 shows the values obtained from the correlational analysis among the eight factors, in

which it is observed that in all cases the relationship is statistical significant, for a value of  $p < .01$ .

	DETACHMENT	HUMILIATION	SEXUAL	COERCION	PHYSICAL	GENDER-BASED	EMOTIONAL PUNISHMENT	INSTRUMENTAL
DETACHMENT	1	.654**	.506**	.566**	.404**	.536**	.604**	.305**
HUMILIATION	.654**	1	.508**	.555**	.523**	.634**	.581**	.367**
SEXUAL	.506**	.508**	1	.477**	.430**	.469**	.441**	.399**
COERCION	.566**	.555**	.477**	1	.443**	.480**	.515**	.327**
PHYSICAL	.404**	.523**	.430**	.443**	1	.399**	.410**	.480**
GENDER-BASED	.536**	.634**	.469**	.480**	.399**	1	.465**	.315**
EMOTIONAL PUNISHMENT	.604**	.581**	.441**	.515**	.410**	.465**	1	.317**
INSTRUMENTAL	.305**	.367**	.399**	.327**	.480**	.315**	.317**	1

Table 4. Correlations among CUVINO factors (\*\* $p < .01$ )

The variance was subsequently analyzed, in a comparison of the mean scores obtained for each factor in the subsamples from Spain (N=2934), and Latin America (N=2240). Except for the factors *Humiliation* and *Emotional Punishment*, the Spanish and Latin American populations yielded different results for all the test factors, with a probability level of  $p < .01$ .

Table 5 shows the descriptive data of this analysis, in addition to a column containing the weighted means, which were obtained by dividing the direct mean by the number of items that make up each factor. Chart 1, in turn, represents the weighted mean values for each of the subsamples, and for the total sample, in each of the eight factors.

		N	Mean	Weighted mean	Standard Deviation	95% Confidence Interval for the mean		F	p
						Lower Limit	Upper Limit		
DETACHMENT	SPAIN	2856	3.21	0.46	3.74	3.07	3.34	43.91	0.000
	LATIN AMERICA	2240	3.95	0.56	4.25	3.77	4.12		
	Total	5096	3.53	0.50	3.99	3.42	3.64		
HUMILIATION	SPAIN	2871	1.76	0.25	2.76	1.66	1.86	2.233	0.135
	LATIN AMERICA	2240	1.88	0.27	3.12	1.75	2.01		
	Total	5111	1.81	0.26	2.93	1.73	1.89		
SEXUAL	SPAIN	2863	1.16	0.19	2.53	1.07	1.25	19.04	0.000
	LATIN AMERICA	2240	1.48	0.25	2.6	1.37	1.59		
	Total	5103	1.3	0.22	2.57	1.23	1.37		
COERCION	SPAIN	2877	2.37	0.40	3.04	2.25	2.48	42.407	0.000
	LATIN AMERICA	2240	2.94	0.49	3.28	2.81	3.08		
	Total	5117	2.62	0.44	3.16	2.53	2.71		
PHYSICAL	SPAIN	2872	0.5	0.10	1.37	0.45	0.55	7.72	0.005
	LATIN AMERICA	2240	0.61	0.12	1.46	0.55	0.67		
	Total	5112	0.55	0.11	1.41	0.51	0.59		

Table 5. Análisis de varianza para submuestras española y latinoamericana

		N	Mean	Weighted mean	Standard Deviation	95% Confidence Interval for the mean		F	p
						Lower Limit	Upper Limit		
GENDER-BASED	SPAIN	2869	1.44	0.29	2.19	1.36	1.52	16.69	0.000
	LATIN AMERICA	2240	1.7	0.34	2.26	1.6	1.79		
	Total	5109	1.55	0.31	2.22	1.49	1.61		
EMOTIONAL-PUNISHMENT	SPAIN	2882	1.04	0.35	1.65	0.98	1.1	2.35	0.125
	LATIN AMERICA	2240	1.11	0.37	1.8	1.04	1.19		
	Total	5122	1.07	0.36	1.72	1.02	1.12		
INSTRUMENTAL	SPAIN	2883	0.15	0.05	0.74	0.13	0.18	12.15	0.000
	LATIN AMERICA	2240	0.23	0.08	0.83	0.19	0.26		
	Total	5123	0.19	0.06	0.78	0.16	0.21		

Table 5 (cont.). Análisis de varianza para submuestras española y latinoamericana

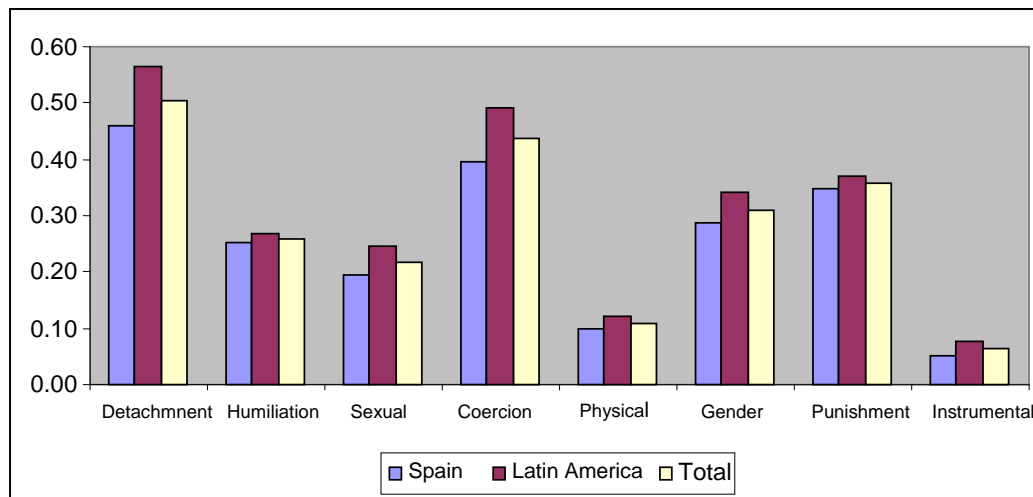


Figure 1. Weighted means per factor for subsamples and total sample

## DISCUSIÓN

The first outstanding result is the complex structure of our object of study, commonly termed as *gender violence* (in Spain), *domestic violence*, *intimate partner violence*, etc. Unlike what is usually proposed from a legal viewpoint, which makes reference to physical and psychological types, we found many more factors after analyzing the data obtained from a broad sample of more than 5,000 subjects from different Spanish-speaking countries.

From this perspective, and according to our data, the term *psychological* may be relevant in the field of behavioral sciences, but in this case, it is excessively generic and offers little in terms of ex-

planations. Likewise, based on our data, only one of the factors found could resemble the physical type proposed from the legal viewpoint, which would require us to assign the remaining seven factors to *psychological violence*. Although the distinction of *sexual violence* as a separate type has gained some acceptance, and is supported by some instruments such as the CTS-2, we can say that the results obtained in this research do not comfortably fit with any of the proposals known and validated to date.

One fact worth mentioning is that the *gender violence* factor identified in the CUVINO forms part of a much wider systems of violent relationships. Given that both women and men distinguish this from other forms of aggression, we should think about the usefulness of intervention focused exclusively on the

prevention of sexist relationships. Such interventions disregard other factors present in the data obtained through the CUVINO. In this regard, the data lead us to conclude that the importance of maintaining the *gender* label should be reconsidered. *Gender* is used in an inappropriate way in Spain to refer to all acts of aggression that occur within a couple. However, the term can be more confusing than clarifying, when it comes to carrying out preventive work with youth.

There is one previous CUVINO validation study (Rodríguez-Franco et al., 2007), in which 8 factors practically identical to those we identified were defined from a sample of 709 Spanish women who had received formal schooling. This study gathers data from more than 5,000 individuals of both sexes from three different countries and who have different educational levels. The fact that the factor structure is so similar, in spite of the use of the exploratory methodology (instead of confirmatory factor analyses), suggests the validity of the structure described. The correlation among subscales seems to indicate that as many as eight maltreatment subtypes have been isolated, all with a common feature that could be related to a higher-order factor, i.e. abuses within the couple. Likewise, the total reliability of the scale (Cronbach's alpha of 0.932) and of the subscales (alpha values between 0.58 and 0.81, with 6 factors above 0.70) indicates that there are sufficient psychometric qualities to consider the CUVINO a valid and reliable assessment tool.

The reliability of the results is also confirmed by comparing the Spanish and Latin American samples. Although the mean frequency was higher in six of the eight factors for the South American sample (México and Argentina), the maltreatment profile was practically identical in both subsamples, with weighted means higher in the factors *Detachment* and *Coercion*, *Gender-Based* and *Emotional Punishment* (in that order); the lowest values were reported for *Physical* and *Instrumental*. These data make us think that there is a common pattern in the abuse among adolescent and young couples, and although frequency can vary by country, the questionnaire structure provides multicultural support. The determination of the role that sexism, tolerance, and other cultural variables may play in these differences should be a future topic of research.

Having described the virtues of the CUVINO, we consider it useful to resume the debate introduced in the first part of this paper. We use validity and reliability to assure the assessment, but what is this assessment for? There are data available on the young population from different Spanish-speaking countries who had received formal schooling and on how often 42 relationship abuse indicators occur. We consider that the accumulation of such data helps create a solid empirical basis for the design of prevention initiatives. Such initiatives would, in the authors' view, take advantage of a maltreatment classification that surpasses the one traditionally proposed (physical, psychological, and sexual). The purpose of this study was not, however, to develop a diagnostic instrument that classifies the assessed individuals as *maltreated* or *not maltreated*. We believe that any behavior considered in the CUVINO can indicate a risk, and before defining a cut-off point which separates normal from abnormal, we consider

it critical to keep these harmful models of interpersonal relationships from taking hold, since the risks to human health of said models are well-documented in the literature (Matud, 2004).

In this regard, if we look to the future, it may be valuable to combine the levels of frequency and distress of the proposed indicators. This would give us measurement tools specific to certain groups (according to gender, educational level, country of origin, etc.) and thus allow us to identify the biggest areas of protection and risk of a specific group of subjects. If this were achieved, we could provide specific groups with a preventive intervention fit to their needs, one that offers them useful conceptual tools to ensure that they will not stand for any acts that no young person should endure in a relationship. Ultimately, learning to assess one's own relationship is necessary to keep abuses from occurring. An old proverb can be useful in this regard: seek and ye shall find.

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## **Adjustment disorder with anxiety. Assessment, treatment and follow up: a case report**

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### **ABSTRACT**

This case report describes the evaluation process and therapeutic intervention of a 19 year-old woman with adjustment disorder. The change of city of residence and transition from high school to university generated high levels of anxiety, especially when under social and evaluative situations.

The treatment was structured in 12 weekly sessions. The therapy was focused on thought observation training, modification of anxious anticipations and elimination of attention and interpretive biases, by means of cognitive restructuring. Physiological deactivation techniques (progressive relaxation training, abdominal breathing, imagination and suggestion of relaxing situations), problem solving strategies and exposure techniques (imaginary and real) were put into practice in order to help the patient cope with the anxiety generating situations that were being avoided.

At post treatment we observed a clear improvement, including a decrease in physiological activation, absence of avoidance behaviour and a significant decrease in the number of anxious anticipations. Pre and post treatment data are presented, as well as the 3 and 6 months follow-up results. The effectiveness of the intervention is analyzed and discussed.

*Key Words:* anxiety, adjustment disorder, evaluation, treatment, case report.

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### **INTRODUCTION**

Adjustment disorders (APA, 2000) seem to be frequent, however the epidemiologic pattern varies widely according to the sample studied. Adjustment disorders are characterized by maladjustment reactions which may arise with emotional and/or behavioural symptoms developed in response to one or more identifiable stressors. The emotional symptoms are sometimes of an anxious type and are produced as a consequence of psychosocial stressful agents such as emigration (Averages and Orellana, 2008; Delgado, 2008; Pereda, Actis and de Prada, 2008; Salaberría, de Corral, Sánchez, Larrea, 2008) or divorce (Yáñez, Guerra, Comino, Plazaola and Biurrun, 2008). In this case, the symptoms of anxiety may give rise to the so-called adjustment disorder with anxiety, which does not meet the criteria of an anxiety disorder.

#### *Patient identification*

Nineteen-year-old J. M. is the eldest of three siblings. She comes from a small provincial town close to Madrid, where she is living now as she is a university freshman there.

#### *Analyzing the reason for consultation*

The patient went to the doctor as a result of the high scores obtained in the *Inventario de Situaciones y Respuestas de Ansiedad*, ISRA (an anxiety situation and response inventory), (Miguel Tobal and Cano Vindel, 2002) carried out in an undergraduate practical course and then implemented two months later within a Post-Graduate practical course at the Complutense University in Madrid. Although time had passed since the patient's first assessment, her anxiety symptoms had not subsided. She reported feeling anxiety which is generally a trait of her character but her problem had increased considerably since her move to Madrid. She was collaborative but anxious during the examination and showed great interest in receiving psychological attention to solve her anxiety difficulties in the academic context (González, Donolo, and Rinaudo, 2009) and in the social context (Zubeidat, Salinas and Sierra, 2009).

#### *History of the problem*

As for the outset of the problem, the patient stated she had always been nervous and shy but *had never seen herself worse* than during this academic year. Up to now, J. M. had always lived in her hometown, a small village in Extremadura. As she herself pointed out, she had quite a negative self-image and she defined herself as being insecure and found it difficult to make decisions.

J. M. entered university and changed residency in October, settling in Madrid. As the date for moving approached, she got increasingly anxious in face of the

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big change in her life, as she would stop living with her family in her village and share a flat with classmates; in addition to this, was the change from high school to university.

Her academic performance was clearly poorer than her usual one at high school. In her first term at university she failed all her subjects, which was the first time she recorded failures in her academic career.

#### *Assessment*

Interviews and self reports provided information about the origin and continuation of the problem behaviour. The data obtained from an autobiographical questionnaire indicated that the patient's general state of health was normal and she had not suffered from any significant health problems. She satisfactorily valued her family and social relations and, interestingly enough, regarded her sister as her best friend. Furthermore, her social relationships in Madrid were more restricted than in her hometown, as they were reduced to the academic setting (González, Donolo and Rinaudo, 2009).

Her scores obtained in the *Inventario de Situaciones y Respuestas de Ansiedad*, ISRA (an anxiety situation and response inventory), (Miguel Tobal and Cano Vindel, 2002) placed the patient within the rank of severe anxiety, with a percentile score of 80 in total anxiety or measure of general trait. As for her response profile, her cognitive and physiological reactivity stand out, with scores of 85 and 80 respectively, versus the percentile of 60 reached at the motor level.

As regards situational areas, the patient showed severe levels of interpersonal, phobic and everyday anxiety, with percentile scores of 90, 80 and 85, respectively. In assessment situations, her score was slightly lower (percentile 70). She stated she did not use to show much anxiety in exams; however, her current scores in this situation show high anxiety levels (average score of 3.66 out of 4). High scores also stand out in interpersonal situations of the ISRA (“If someone of the other sex is very near me, brushing against me,” or “If I am in an intimate sexual situation,” or “when I have to attend a social event and meet new people.”)

The data from this test which refer to anxiety manifestations support and coincide with her answers in the biographical questionnaire and with those from the interviews.

Anxiety was noticed during the interview when referring to travelling by the public means of transport she used (bus) as well as a fear of flying, a fear that had not been specified initially. Throughout the treatment, no priority was given to her fear of flying due to the patient's personal decision. She did not change her mind in spite of being asked many times and so this aspect was not tackled, as it was the patient's specific wish, since she did not see it being useful in her case.

Worry, anticipation and other anxious feelings were also noticed in situations such as talking in class, getting together with classmates, or in face of examinations.

#### *Analyzing and describing the behavioural problems*

The main behavioural problems were:

1. High anxiety levels, especially at the cognitive level, in face of any assessment situation, principally university exams, or in face of interpersonal situations, especially with her classmates.
2. Anticipating very negative results about her exam performance, undervaluing her own resources and her

daily work, an example being “I am going to fail because it is a multiple choice exam.”

3. Important reduction in her academic performance from the time she entered university.

4. Too many anxiogenic anticipations related to her hometown accent when initiating a conversation or when speaking in public.

5. High anxiety levels, especially high physiological activation, manifested by symptoms such as perspiration, uneasiness, palpitations, feeling of breathlessness, when using public means of transport. Furthermore, she reported an excessive fear to flying even though she stated she did not need to travel in this means of transport.

6. Frequent avoidance behaviour shown when speaking in public and during social interaction, and a decrease in the probability of using her social abilities, principally to initiate conversations, express criticism or saying no.

The anxiety shown by the patient, especially in face of social and assessment situations, is associated with the change in her city of residence. (Avargues and Orellana, 2008; Delgado, 2008; Pereda, Actis and de Prada, 2008; Salaberría, de Corral, Sánchez, Larrea, 2008) and to the change from high school to university encouraging the outset of anxious feelings in face of some everyday situations (she spent a good part of the day on this type of thought—attentional bias—which are catastrophist thoughts—interpretive bias).

In agreement with the cognitive model, as a consequence of these dysfunctional and automatic thoughts, the patient experiences an increase in her physiological activation which also brings about a higher frequency and seriousness of the previous erroneous feelings. Such an anxiety response becomes important, as a cycle is established where the anxious response feeds back on itself.

The stimulus situations related to the fact of being assessed, *i.e.*, exams or social situations, operate as discriminating stimuli and increase the possibility of a negative assessment of the consequences of the situation and of her personal resources to cope with the demands facing her. This results in interpreting the situation as a threat, with a strong interpretive bias (Eysenck and Eysenck, 2007); all in all, it results in a high physiological activation which brings about more ill being, and, usually, avoidance behaviour.

The lack of social abilities underlying the patient's avoidance behaviour, which in fact relieves her anxiety symptoms, appears together with a feeling of failure and so leads to a detriment of perceived self-efficiency to handle these situations, which may become generalized towards lesser self-esteem. This might favour a negative appraisal of her ability to cope satisfactorily with social and assessment situations which might increase her anxiety in the face of these situations.

After integrating the information collected during the assessment phase, we verified that the patient met the criteria described to diagnose her with adjustment disorder with anxiety, 309.24 in the DSM-IV-TR and F43.28 in the CIE-10 (American Psychiatric Association, 2001; World Health Organization, 1992).

#### *Establishing treatment objectives*

A general objective was established, namely to reduce the anxiety levels in its three response systems in face of the aforementioned situations, principally interpersonal and assessment situations. To do that, we set out the following specific objectives:

1. Identify and fight against anticipatory thoughts referring to examinations and other anxiogenic situations and substitute them by other more adaptative ones.
2. Manage for J. M. to regard social and assessment situations as less threatening.
3. Reduce attentional and interpretive biases by means of self-observation and modification.
4. Diminish physiological activation responses through relaxation techniques.
5. Eliminate her avoidance responses, such as speaking in public or using public transport.
6. Favour a gradual exposition to situations with adequate anxiety levels.
7. Modify erroneous thoughts about her hometown accent.
8. Increase and improve social abilities.
9. Go out with her class mates.
10. Learn and improve study skills.

*Selecting and applying the most appropriate techniques*

Starting from a functional analysis of the behavioural problems, as well as the objectives that had been set out, a treatment programme was established with special emphasis on the cognitive restructuring technique (Dongil-Collado, 2008) about anxious anticipations by training to observe thoughts, to eliminate attentional and interpretive biases and to turn interpretations of threat into challenges (all of this in order to deal with specific objectives 1-3 and 7. This cognitive intervention was completed by training in problem solving techniques, which addressed specific objective 8 (D'Zurilla and Goldfried, 1971).

Furthermore, the intervention process was complemented by other pertinent techniques. Thus, in order to deal with specific objective 4, the patient was trained in physiological deactivation techniques such as Jacobson's progressive muscle relaxation, breathing, in the imagination and suggestion of relaxing situations and in the exposition to imaginary and real situations in order to encourage coping with some situations which used to be felt as anxiogenic and so were avoided (specific objectives 6 and 9).

Finally the patient was trained in specific social abilities (specific objective 8) and study skills (specific objective 10) in order to introduce effective and adequate habits to cope with an examination with adjusted anxiety levels.

All in all, the treatment was based on techniques which were able to provide the patient with strategies to adequately perceive and interpret anxiogenic or stressful situations and to cope them with more security and less physiological activation.

The first sessions (See Table 1) were devoted to assessment and adjustment of the patient's expectations to treatment. The data collected was used to explain the variables that affected the problem. Due to the patient's high levels of psychophysiological activation, training in relaxation started as early as session 2 by means of (1) diaphragmatic breathing; (2) progressive muscle relaxation (Jacobson, 1929) in the abbreviated version developed by Wolpe in 1958, and (3) imagination and suggestion (Calvo, Betancort and Diaz, 2009).

During the third session the assessment was completed and the patient was informed about what an anxiety response consisted of, as well as its manifestations and consequences. Such information was the first

step in carrying out the cognitive restructuring technique, which was done by combining the procedures proposed by Ellis (1977) Beck, Rush, Shaw and Emery (1979), and more recent contributions to this field (Leal-Carcedo and Cano-Vindel, 2008). All through the treatment we insisted on explaining the relationship among thought, emotion and behaviour, as well as for the existence of attentional and interpretive cognitive biases which trigger anxiety reactions (Eysenck and Derakshan, 1997; Eysenck and Eysenck, 2007).

Session	Activities
1	Exploring reasons for consultation. Establishing the therapeutic relationship.
2	Interviewing. Exploring problem behaviours. Giving information about anxiety and commenting on the ISRA inventory. Diaphragmatic breathing training.
3	Exploring problem behaviours. Cognitive restructuring (giving information on the relationship between thoughts and emotions). Self-recording of thoughts. Phase-1 Progressive Muscle Relaxation training
4	Explaining problem behaviours to the patient. Cognitive restructuring (related to her accent). Self-registration. Phase-2 Progressive Muscle Relaxation training.
5	Cognitive restructuring of interpersonal situations and assessment. Exploring the fear of flying behaviour. Phase-3 Progressive Muscle Relaxation training
6	Cognitive restructuring. Phase-4 Progressive Muscle Relaxation training.
7	Self-recording Problem solving skills training (D'Zurilla and Golfired, 1971) Training in Progressive Muscle Relaxation and Imagination.
8	Problem solving techniques and revising homework. Training in Progressive Muscle Relaxation with Suggestions.
9	Social skills training (Assertivity).
10	Social skills training (Giving and receiving criticism).
11	Study skills and study habits.
12	Checking goal achievement. Reviewing techniques learnt. Post-treatment assessment.

**Table 1. Treatment plan**

An important part of the cognitive restructuring carried out was the use of self-reports to identify thoughts and so learn to establish the relationship between thoughts and anxiety. Furthermore, we explained the way our cognitive schemes influence our way of interpreting and analyzing the world, making us resistant to its possible modification.

In order to facilitate the patient's correction of interpretive biases, they were very often analyzed, which provided more realistic and less anxiogenic alternative interpretations. Equally, she was taught to elaborate positive thoughts to diminish psychological ill-being and to contrast them with the reality, all of which to encourage a more adaptive emotional state.

In order to reduce the attentional bias, we measured the frequency and percentage of the time spent on anxiogenic thoughts and indicated the need to reduce their importance and to eliminate a great part of the attention paid to them (Gutiérrez Calvo and García González, 1999), changing the focus of attention (Ramos-Cejudo and Cano-Vindel, 2008).

Furthermore, we used other techniques of a cognitive kind, such as training in problem solving (D'Zurilla and Goldfried, 1971), which was especially emphasized due to her important lack of decision taking ability. Once the technique had been explained, practical cases in her everyday life were put into practice.

Training in social abilities was addressed to those situations that the patient had reported difficulties in. Thus, expressing criticism, initiating conversations and responding assertively were focused on. After the corresponding explanation, the patient was asked to provide an example of a real situation that she would find difficulties in, with the aim of working on it during behavioural sessions (Caballo, 2002).

In order to make it possible for the patient to take examinations with adaptive levels of anxiety, she was trained in relaxation and study skills.

In addition to these techniques, we implemented

imaginary and real programmed exposition in the face of anxiogenic situations, such as saying no to some demands, travelling in public transport, going out with her class mates, or speaking in public in her class, etc. All of these expositions were carried out by means of homework tasks and developed in accordance with the treatment plan described in Table 1, which points to the contents addressed in each of the 12 sessions.

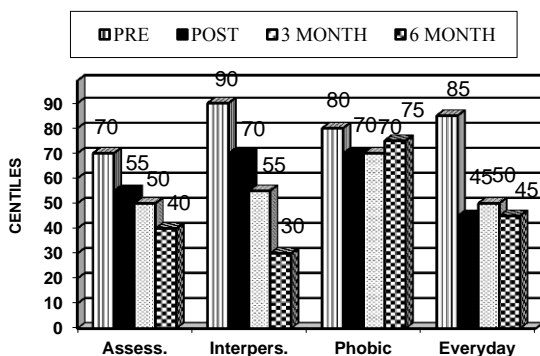
*Findings and assessment of the effectiveness of the treatment*

When we quantitatively valued the changes obtained after 12 treatment sessions, we noticed that each one of the anxiety levels valued by the I.S.R.A. had decreased at the end of treatment in all three response systems, cognitive, physiological and motor (See Table 2).

	Pre-treatment		Post-treatment		Three month follow up		Six month follow up	
	Raw score	Percentile score	Raw score	Percentile score	Raw score	Percentile score	Raw score	Percentile score
<b>Cognitive</b>	109	85	70	55	61	45	64	50
<b>Physiological</b>	57	80	51	75	37	60	30	50
<b>Motor</b>	46	60	41	55	39	50	33	40
<b>Total</b>	212	80	162	60	137	50	127	45
<b>Assessment</b>	85	70	70	55	64	50	57	40
<b>Interpersonal</b>	37	90	22	70	15	55	9	30
<b>Phobic</b>	53	80	44	70	43	70	48	75
<b>Everyday</b>	26	85	9	45	10	50	8	45

**Table 2. Results of the assessment in pre-treatment, post-treatment and in the two follow-up sessions**

It can be noticed that the most significant decrease in scores was the cognitive level, which diminished from percentile 85 to percentile 55 (See Figure 1).



**Figure 1. I.S.R.A. scores (Response Systems)**

As regards data related to the interview, there was a big drop in avoidance behaviours in face of situations which used to be threatening or anxiogenic. After the treatment, the patient was able to travel everywhere by any means of transport, except by plane, which was not worked on. She was also able to meet new people and to relate socially without any concerns related to her accent. The improvement generalized to the academic field, as the patient passed all the subjects in the second term of her freshman year. It is worth stating that the treatment took place between February, when she failed

all her subjects, and June, when she was able to pass them all.

After the twelfth session the patient was discharged not only because the school year had ended and she had to go back home, but especially because the therapeutic objectives had been achieved; in summary the treatment started with a percentile 80 (severe anxiety) in the general level of anxiety and ended in percentile 60 (moderate anxiety). This therapeutic improvement kept increasing in the two follow-up visits which took place. As a matter of fact, in the first follow up she obtained a percentile score of 50 and in the second 45. In percentage terms, general anxiety direct scores reduced 40.1% between the pre-treatment assessment and the second follow up (See Table 3), reaching a final value of 127 points which corresponds to 45 percentile in the general population scales (percentile 5 with those of the clinical population).

*Follow up*

An interview was held three months after the treatment when some maintenance guidelines were given, indicating that she should keep to the strategies acquired during the treatment.

The continuation of the results were confirmed, even showing a new drop in the three response systems. There was a new drop in F-I (Assessment anxiety) and in F-II (interpersonal anxiety) of 5 and 15 percentiles respectively. However she showed a level in F-III anxiety (phobic anxiety) equal to the one in the post-treatment, coinciding with the persistent concern about planes and

the absence of treatment for this problem. Nevertheless, she maintained a lower score than in the pre-treatment levels.

In September the patient was able to pass all the subjects she had failed in the first term, before the start of treatment.

She was more relaxed and became less anxious when she met new people. Thus, she attended an extra summer course in which she did not know anyone but was able to mix with her class mates adequately.

	Pre - post		Pre-3 month follow-up			
	Raw score	%	Raw score	%	Raw score	%
<b>Cognitive</b>	39	35,8	48	44,0	45	41,3
<b>Physiological</b>	6	10,5	20	35,1	27	47,4
<b>Motor</b>	5	10,9	7	15,2	13	28,3
<b>Total</b>	50	23,6	75	35,4	85	40,1
<b>Assessment</b>	15	17,6	21	24,7	28	32,9
<b>Interpersonal</b>	15	40,5	22	59,5	28	75,7
<b>Phobic</b>	9	17,0	10	18,9	5	9,4
<b>Everyday</b>	17	65,4	16	61,5	18	69,2

Table 3. Therapeutic gains at the end of treatment and in the two follow up sessions.

Six months later, a follow-up session was carried out by means of an interview and assessment with the ISRA (an anxiety situation and response inventory). A slight increase of cognitive anxiety was noticed which was not found alarming, as J. M. was still in the examination period. Yet, she did show a drop in physiological and motor levels. The patient stated that she retook breathing and relaxation techniques in the exam periods as she “felt better and more clearheaded.”

In the situational areas, the patient showed a new and slight decrease in *Assessment Anxiety* and *Anxiety in Daily Life*, which were at normal anxiety levels. The most significant data is the big drop in F-II (interpersonal anxiety), which reached low anxiety levels (percentile 30). However, there was a slight increase (from percentile 70 to 75) in her *phobic anxiety*, which included the fear of flying situation.

The patient reported having a new group of girlfriends in her Faculty and now she preferred Multiple Choice tests, which she used to fear. Her academic performance increased a good deal and she managed to pass all the four-month subjects in the first term in her second year of studies. The fact that she did fail an optional subject was not due to anxiety problems.

**DISCUSSION**

Both the DSM-IV (APA, 2001) and the (CIE-10) (WHO) state that diagnosing adjustment disorder is framed within the assessment of the following variables: form, content and seriousness of symptoms; background and personality, and everyday events or situations. In spite of the efforts to provide specific criteria, clinical practice shows that adjustment disorder has always been a controversial issue, as it still has a vague and residual diagnosis. However, there had been no doubt in assigning this patient to this diagnostic category, given the stressful circumstances, the emotional reaction, the linking of events and the time length involved.

Casey, Dowrick and Wilkinson (2001) hold that two ambiguous aspects define the diagnosis of adjustment disorder. First, they draw attention to the vague differences between and among its manifestations and the expected reactions to the adjustment. The second controversy lies in the diagnosis overlapping other disorders. We believe, however, that the case we have report-

ed provided very precise data in the issues pointed out by

these authors.

Scientific literature insists that the treatment of adjustment disorders needs to be basically founded on the psychotherapeutic measures that make it possible to reduce the assessment of threat and the strength of stressors, to boost coping with the stressful agent that cannot be reduced or eliminated, and to establish a support system to achieve the best possible adjustment (Hales and Yudofsky, 2000; Wood, 2008). We have followed these lines and the findings of this study have been those expected by these authors.

In the present case, as can be seen, in the initial period of no treatment, there were no significant changes in reported psychological ill-being. However, after twelve sessions of treatment guided by a cognitive theoretical model (Eysenck and Eysenck, 2007) with empirical support and techniques based on scientific evidence, the patient progressively acquired precise abilities to manage her thoughts properly, reduce cognitive biases and anxiety responses, and successfully cope with feared situations at the slowest discomfort level. Other achievements were the acquisition of self-control abilities for physiological activation and behaviours to cope with any situations that had been previously feared, except for fear for flying, which J. M. refused to deal with.

In the light of the findings, cognitive behavioural therapy proves to be effective both by the pre-treatment and post-treatment differences registered in the questionnaires and by the behavioural changes observed during the interviews. On the other hand, this work shows the typical limitations of AB designs with follow up (Vidal-Fernández, Ramos-Cejudo and Cano-Vindel, 2008), whose level of proof is considered to be the lowest by Cochrane Foundation.

We have not been able to control the effect of outside variables that may have affected the treatment, such as examination epochs or the passage of time, etc; however, the findings and conclusions of this case are in tune with those obtained by more rigorous studies on the effectiveness of these techniques (Butler, Chapman, Forman and Beck, 2006).

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## **Activity of the behavioural activation system and the behavioural inhibition system and psychopathology**

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### **ABSTRACT**

The behavioural inhibition system (BIS) and the behavioural activation system (BAS) have been conceptualized as two neuro-behavioural systems regulating sensitivity to punishment (BIS) and sensitivity to reinforcement (BAS) and are in the basis of personality. A lack of balance in the BIS and BAS activation levels has been related to several types of psychopathology. This article reviews the most relevant studies on the issue published over the last few years, which show that both systems prove useful to assess a number of disorders, namely eating disorders, psychopathy, alcohol dependence, personality disorders, schizophrenia, bipolar disorder and depression, and that they can be applied clinically.

**Key words:** behavioural inhibition system, behavioural activation system, psychopathology

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### **INTRODUCTION**

Personality traits, from a neuro-behavioural perspective, give rise to individual differences in the activity of some brain systems. Eysenck's model of personality (1976) is the most representative one within this perspective. It is based on the identification of a series of personality traits whose dimensions are to be conceived as independent to one another and endowed with a continuous character. From a psychobiological point of view, extraversion - introversion and neuroticism - stability are the most interesting dimensions.

Eysenck relates a number of neural structures and mechanisms with the pathological differences associated with these dimensions. The degree of extraversion or introversion is determined by the reactivity of the central nervous system. The neuroticism - emotional stability dimension is linked to the brain system associated to the cortical or limbic loop responsible for connecting the brain cortex to the autonomous nervous system (Eysenck, 1967).

According to Jeffrey A. Gray (1981, 1987) emotional situations are not only characterized by the intensity of the emotional activation but also by the motivational direction that follows the behaviour depending on whether the signals are appealing or aversive. Gray's reinforcement sensitivity theory (1981, 1987) incorporates motivational issues to account for personality and remodels Eysenck's theoretical proposal.

The model postulates the existence of two fundamental dimensions, namely anxiety, which goes from the extraversion - stability pole (low anxiety) to that of extraversion - neuroticism (high anxiety), and impulsivity, which shifts from the introversion - stability pole (low impulsivity) to the one of extraversion - neuroticism (high impulsivity). The more anxiety the more sensitivity to signals of punishment, thwarted reward and novelty. Increasing impulsivity brings about a rise of sensitivity of reward and no punishment signals. Individual differences in impulsivity and anxiety can be accounted for by the action of two brain systems:

Firstly, the behavioural activation or behavioural approach system (BAS) is a positive feedback device which responds to appealing conditioned signals such as rewards or end of punishment by activating the behaviour of time and space approximation towards the positive stimulus, for which reason it can lead the organism to objectives such as food or water, etc.

BAS activity depends on structures such as dopaminergic fibres which rise from the mesencephalon or midbrain (substantia nigra and A10 nucleus from the ventral tegmental area) and innervate the base ganglia, the thalamic nucleus close to the base ganglia and the neocortical areas (motor cortex, sensory and motor cortex and prefrontal cortex) next to the base ganglia.

The BAS system consists of two interrelated subsystems, namely dorsal striated and ventral (nucleus accumbens). The activity of the BAS has been related to the development of positive affects or mood and with the impulsivity personality dimension (Corr, 2004; Gray, 1987).

Secondly, the behavioural inhibition system (BIS) is a negative feedback device which reacts against conditioned aversive stimuli and responds to signals of punishment, lack of reward or new stimuli. It works by suppressing the execution of behaviour and by increasing attention to the environment and novelty and in the

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increase in the level of arousal, in such a way that the following action, whether or not it is identical to the one interrupted by the behavioural inhibition, is carried out more vigorously and quickly. From a cognitive point of view, this system functions as a comparator, as it predicts the most likely future event and compares the prediction to the current event. The brain structures related to the BIS are the septohippocampal system, which consists of the septal area, the entorhinal cortex, the dentate gyrus, the hippocampus and the subicular area; its monoaminergic and afferent fibers and its neocortical projections to the prefrontal cortex. The performance of the BIS has been related to the development of negative affections or mood and to the anxiety personality dimension (Corr, 2004; Gray, 1987).

These original definitions of BAS and BIS postulate mutual functional independence; a later development of the theory proposes interdependence. On reformulating the theory (Gray and McNaughton, 2000), the role of the BAS remains practically unchanged. It mediates the reactions between appealing stimuli and the activation behaviour.

The fight/flight/freeze (FFF) system mediates the reactions to all aversive stimuli, both conditioned and unconditioned, and is related to avoidance and escape behaviour. The BIS role changes and becomes responsible for solving goal conflicts between BAS-activation and FFF-avoidance. Temperament and individual behavioural differences lie in the reactivity differences of these systems. High BAS reactivity is associated with focusing reward and impulsivity. People with a high reactivity to FFF show higher levels of fear and avoidance behaviour. On the other hand, high reactivity to BIS is related to a tendency to worry and to anxious brooding (Corr and McNaughton, 2008).

Subsequent theoretical development such as Cloninger's personality model (Cloninger, Svarakic and Przybeck, 1993) support a relationship between three temperament dimensions and the activity of the brain systems proposed by Gray. Cloninger's model advocates various temperament dimensions: novelty seeking, harm avoidance, reinforcement dependence, and persistence. Some of these dimensions are related to the systems proposed by Gray.

Novelty seeking, which leads to exploratory activity, is biologically related to the dopamine acting in the BAS. Harm avoidance leads to intense responses to adverse stimuli signals and stimulates the BIS through the serotonin modulating responses to novelty seeking. Reinforcement dependence is related to social reinforcement and sensitivity to social stimuli and discomfort at being outside the group. The persistence dimension leads to repeating behaviours which have been reinforced (Cloninger *et al.*).

Gray's approach to positive and negative emotions as two separate processes has been supported by rigorous psychometric approaches such as the ones carried out by Watson and Tellegen (1985).

In order to study the individual differences in BIS and BAS reactivity, self report instruments have been developed. The two most frequently used tests are *The Behavioral Inhibition/Behavioral Activation System Scales*, *BIS/BAS Scales* (Carver and White, 1994) which consists of 20 items assessing reactivity of BIS and three kinds of reactivity of BAS, namely sensitivity to reward, impulsivity and fun seeking.

The other most used instrument is *The Sensitivity to Punishment and Sensitivity to Reward Questionnaire*, SPSRQ (Torrubia, Ávila, Moltó and Caseras, 2001), which consists of 48 items, 24 of which assess sensitivity to reward as a BAS activity, and the other 24 sensitivity to punishment as a BIS activity.

Using Gray's proposal the relevance of these systems for mental disorders was put forward, they were proposed as dimensions relevant to them and it was hypothesized that extreme reactivity levels in these systems are related to psychopathology (Johnson, Turner and Iwata, 2003). The most up-to-date contributions of the model have been supported by clinical research in the expected direction, by characterizing specific neuro-behavioural system performance profiles in a number of disorders. In this way, a high reactivity of FFF is typical of phobias and panic; high BAS reactivity is usual in addictive behaviours and high BIS reactivity is found in generalized anxiety and obsessive compulsive disorder (Corr and McNaughton, 2008).

This study seeks to analyze whether the activity of the activation and inhibition behavioural systems is a relevant dimension in psychopathology. To do that, the current bibliography has been reviewed in order to describe studies on the activity of both systems in a number of psychopathological disorders and to find out whether BIS and BAS differential activation is present in them.

## METHOD

A bibliographic search was carried out on *Medline* and *Psycinfo* databases, centred on the activation and inhibition systems proposed by Gray and on their relationship to a number of psychopathological disorders. Through the key expressions "behavioural activation system" and "behavioural inhibition system," their abbreviations BAS and BIS, and the words *psychopathology* and *disorder* research was selected that studied the activities of the two systems in various pathologies. The research, which had to have been carried out in the last decade, was ruled out if it had been carried out with non clinical samples. A total number of 13 works was included in our study, which followed the mentioned criteria.

## DISCUSSION

Even though our research has focused on recent studies, it is worth noticing that Gray's anxiety dimension is related to the inhibition system and that BIS hyperactivity has traditionally been related to anxiety disorders (Corr and McNaughton, 2008; Gray and McNaughton, 2000). Another of the first applications of this theory has been in relation to the study of psychopathology, which have also verified that BIS hyperactivity is related to this alteration (Fowles, 1980). These studies have favoured rapprochement prior to the study of BIS and BAS activity in psychopathology.

In the review we have carried out it has been noticed that the interest in the activity of these neuro-behavioural systems in various psychopathological categories has been increasing for a few years now. Among others, a number of works dealing with BIS and BAS activity in people with eating disorders have found that patients with anorexia nervosa show hyperactivity in BIS, in contrast to healthy people. On the other hand, people with bulimia nervosa show hyperactivity both in

the inhibition system and in the behavioural activation system (Claes, Nederkoorn, Vandereycken, Guerrieri and Vertommen, 2006; Kane, Loxton, Staiger and Dawe, 2004).

A more recent study on the activity of the BIS and BAS systems in psychopathology (Newman, Mac-Coon, Vaughn and Sadeh, 2005), shows that primary psychopathology, which is characterized by a deficient affective response to others, is associated to hypoactivity of the BIS, as the first studies postulated (Fowles, 1980), whereas activity in the BAS does not show any difference from that of a control group. Secondary psychopathology, which is characterized by its ability to establish affective relationships, to feel guilt or remorse and by a high anxiety level, is only related to hyperactivity of the BAS.

As for consumption of drugs, the activity of such systems has been studied in alcoholics, who have been found to show hyperactivity in the BAS (Franken, 2002). This study also found that the greatest activity of this system is related to some aspects of craving for alcohol, as are a greater desire and reinforcement on consuming the drug.

A number of studies have also explored Gray's neuro-behavioural systems in personality disorders. One of them sought to determine whether hyperactivity in the BIS might be regarded as a vulnerability factor for Cluster C personality disorders, that is, personality disorders of avoidance, of dependence and obsessive-compulsive, irrespective of the presence or lack of anxiety and/or affective symptomatology in Axis I. It was found that high sensitivity to punishment, that is to say, hyperactive BIS, specifically differentiated between patients with Type C personality disorders and patients without any personality disorder (Caseras, Torrubia and Farré, 2001). Another study investigates the activity of the BIS and BAS in personality disorders and consumption of drugs, and finds that hypoactivity in the BIS and hyperactivity in the BAS are related both to problems due to drug abuse and to histrionic and antisocial personality disorders (Taylor, Reeves, James and Bobadilla, 2006).

Another clinical category that the construct has been applied to has been schizophrenia. It has been studied in stable schizophrenic patients taking the same medication (atypical antipsychotic drugs). They have shown only hyperactivity in the BIS in comparison to a control group of healthy people. This greater activity of the inhibition system also correlated to a longer duration of the illness (Scholten, van Honk, Aleman and Kahn, 2006)

Finally, in the group of disorders where there has been a big increase in the study of BIS and BAS activity over the last few years is in the group of mood disorders, such as bipolar disorder and depression. As for bipolar disorder, a BAS hypersensitivity model has been proposed to characterize people with this pathology. The model argues that mania, hypomania and depression episodes in these patients correspond to hyperactivity and hypoactivity in the BAS, respectively. Recent follow-up studies in bipolar and cyclothimic patients confirm this model in adult patients (Alloy *et al.*, 2008; Salavert *et al.*, 2007). Furthermore, it is evident that hyperactive BIS increases, to a large degree, the risk of major depressive episodes (Alloy *et al.*, 2008).

In patients with early onset bipolar disorder, that is, those whose disorder manifests itself in childhood and adolescence, mania and depression episodes seem to

be independent from the BAS activation level, as occurs in adults. Young patients' affective symptoms are related to hyperactivation of the BIS (Biuckians, Miklowitz and Kim, 2007).

The high co-occurrence of drug abuse has also been studied in bipolar disorders. It has been found that these patients' hyperactivity in the BAS comes from their general state and from their greater drug abuse. In consequence, it is postulated that hyperactivity in the BAS can represent a vulnerability variable in both disorders and in their co-occurrence (Alloy *et al.*, 2009).

As for unipolar depression, a number of studies show that patients with this pathology, both those affected by it while they are being assessed and those who are assessed after recovery, are characterized by a hypoactive BAS and a hyperactive BIS (Kasch, Arnow and Gotlib, 2002; Pinto-Meza *et al.*, 2006). These authors postulate that showing a hypoactive BAS after recovery might be an indicator of vulnerability to depression.

Among the limitations of this work are that some of the studies consulted do not include a contrasting control group and do not use any anxiety or impulsivity measures additional to those of BIS-BAS activity, as it has been pointed out that it is important to include anxiety and impulsivity measures when assessing them (Torrubia *et al.*, 2001) because the few measures directly developed from Gray's model do not seem to interpret the theory in the same way (Carver and White, 1994; Torrubia *et al.*, 2001).

It is also worth noticing that the databases consulted are not exhaustive and the number of published works is increasing considerably. Finally, this study cannot be regarded as a complete review of the literature but as a document which sets out the importance of the neuro-behavioural systems proposed by Gray in various psychopathological categories from a descriptive point of view.

As for the usefulness of our findings, this review allows us to see that assessing activity in the BIS and the BAS is a measure of clinical application whose psychometric assessment is very simple.

The clinical usefulness lies, first, on the fact that various constellations of the activity of both systems characterize the mental disorders discussed. Furthermore, this activity is related to a number of clinical characteristics of various disorders, such as alcoholism, schizophrenia, bipolar; with the comorbidity that arises between and among them (bipolar disorder – drug abuse, and histrionic and antisocial personality disorder – drug abuse). In some cases such activity has been proposed as a vulnerability indicator (in depression, bipolar disorder and drug abuse) and as an explanatory model of the pathology (as in the bipolar disorder and in Cluster C personality disorders).

All the studies consulted have used some of the two most frequently used measures to assess the BAS and BIS activity, so the assessment is simple, as these instruments are brief self-reported measures that increase the clinical applicability of the measures of Gray's systems.

## CONCLUSIONS

If we bear in mind the goal of this study and according to the literature consulted, we can conclude that the activity of the BIS and the BAS systems is really relevant in psychopathology, it permits us to have one

measure to provide information on the clinical characteristics of various pathologies and can be applied to the various disorders studied on a daily basis.

The assessment of these systems also seems to be useful in the population at risk. Other studies which have not been addressed by this review show that the activity of these systems in a non-clinical population with dysfunctional characteristics related to the disorders discussed, such as healthy people with dysfunctional eating patterns, with subclinical symptomatology of depression and anxiety or alcohol abuse, etc, is similar to the one found in patients, which supports the clinical relevance of the BIS and BAS activity in a subclinical population.

Finally, if we bear, reformulations to Gray's theory, in mind, we believe that is appropriate to continue this line of research in order to carry out better neuro-behavioural assessment of the various types of disorders in which the BIS and BAS activity has been studied.

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## **Subjective quality of life and basic psychotic symptoms in schizophrenic patients in various health care facilities. A preliminary study**

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### **ABSTRACT**

**Introduction.** Subjective quality of life in schizophrenia and its relationship with the basic psychotic symptomatology of the disease has gained great importance over the last few years. This is due, firstly, to the desinstitutionalization of these patients, who become integrated in health care facilities, which are increasingly less regimented; and secondly, to the development of new antipsychotic medicines. The objective of this cross-sectional study is to measure the relationship between subjective quality of life and basic psychotic symptomatology in patients with schizophrenia attended to in various health care facilities belonging to a mental health network.

**Methodology.** A total of 50 patients diagnosed with schizophrenia belonging to five health care facilities were assessed. Their subjective quality of life was measured by the *Cuestionario Sevilla de Calidad de Vida* (CSCV) (Seville quality of life questionnaire). Basic psychotic symptomatology was assessed by the Frankfurter Beschwerde Fragebogen (FBF-3) (The Frankfurt psychopathological inventory).

**Results.** It can be seen that the improvement of subjective quality of life is related to a decrease of schizophrenic people's basic psychotic symptomatology. However, such a relationship is not evident when a diversity of health care facilities is compared.

**Conclusions.** The relationship between subjective quality of life and basic psychotic symptomatology in patients with schizophrenia highlights the need to use not only pharmacological treatment but also other cognitive and psychosocial interventions which attend to the subjective experience of the disease in order to improve the quality of life of these patients, irrespective of the health care facilities.

**Key words:** schizophrenia, subjective quality of life, basic psychotic symptoms, *Cuestionario Sevilla de Calidad de Vida* (CSCV) (Seville quality of life questionnaire), Frankfurter Beschwerde Fragebogen (FBF-3) (Frankfurt psychopathological inventory).

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### **INTRODUCTION**

The *II Plan Integral de Salud Mental de Andalucía (2008-2012)* (Second Andalusian comprehensive mental health plan. 2008-2012) highlights, among its general objectives, the need to *improve the quality of life (QL) of people with mental diseases and that of their families, and to encourage their recovery and social inclusion processes* (Consejería de Salud, 2008) (Regional Health Office, 2008).

Therefore, it seems to be clear that QL needs to be one of the priority objectives when coping with chronic illnesses such as schizophrenia, above all if we bear in mind that the advances in pharmacological treatment, with the appearance of second generation antipsychotics and the introduction of concepts such as *rehabilitation* and *community attention*, in the field of health, have contributed to the development of and have promoted QL assessment as an important measure of the efficiency of schizophrenic treatment (Bobes, García-Portilla, Bascaran, Saiz and Bousoño, 2007; Mohr, 2007).

On the other hand, the policy of deinstitutionalization has encouraged interest in learning about and assessing the true impact of QL in schizophrenic patients. However, in order to find out about this relationship, we need to study QL both from an objective perspective focusing on the professional's point of view and from the subjective experience of the ill people (Míguez, González, Alonso, Sanguino and García, 2005).

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Quality of Life has recently been defined, from this approach, as the cognitive and affective self-assessment of a chronically ill person at a given moment in his or her life. Therefore, the study needs to be carried out with the aim of developing and disseminating therapeutic methods that try to achieve something other than the mere disappearance of a disorder, and that is to try and improve the individual's perception of his or her own situation in order to become as integrated as possible in the social environment which best meets their needs (Gómez and Botella, 2007).

The research that deals with trying to study the relationship between psychotic symptomatology in schizophrenic patients and QL has shown an increasing interest in improving the symptomatic processes without forgetting about other aspects of the illness that can positively affect QL, such as the ill person's role performance and their ability to develop it autonomously (González, Villanueva, García and Arias, 2003), or individual perceptions, personal expectations and level of independence (Giner, Ibáñez, Cervera, Sanmartín and Caballero, 2001). Peralta and Cuesta's review study (1994) concludes that the QL of people diagnosed with schizophrenia can be affected both by negative and positive symptoms, and that it is necessary to go beyond classical symptomatology and learn about these ill people's subjective experiences (basic symptomatology) in order to be able to address the illness from cognitive interventions that may encompass the most basic deficiencies of a person. In her study of 93 patients with stable schizophrenia, Hirschberg (2005) finds a strong relationship between negative and positive symptomatology and a lower QL. Equally, the meta-analysis carried out by Shaun and Newhill (2007) finds, firstly, that most of the works examined show a significant negative relationship between negative schizophrenic symptomatology and QL; secondly, that the relationships between symptomatology and QL differ on the basis of the patient's environment, namely hospitalized or outpatients, and, thirdly, that psychosocial treatment improves wider aspects of QL. Finally, it is worth drawing attention to the relationship shown by recent studies among QL, depression and negative symptoms (Narváez, Twamley, McKibbin, Heaton and Patterson, 2008), as well as that between depressive symptoms and the state of general health in relation to objective QL (Marwaha *et al.*, 2008).

However, in spite of the proliferation of studies, most of them only investigate psychotic symptomatology from a classical approach to the illness and do not bear in mind the subjective perspective of the person assessed (Bobes *et al.*, 2007). Consequently, it is imperative to study in a direct way the empiric experiences of these sick people in the intercritical stages of the illness in which contacting and communicating with them improves remarkably. This way, we will learn about the symptomatology they show and what clearly affects their QL, in order to develop secondary and tertiary intervention strategies which allow us to address these symptoms and so diminish the schizophrenic patient's vulnerability and improve their QL (Peralta and Cuesta, 1994; Vargas, Jimeno-Bulnes and Jimeno-Valdes, 1995).

As for the health care facilities used by schizophrenic patients, most of the authors point out that the ill people who live in the community show higher satisfaction levels and QL when they recover their autonomy, independence and relationships with the environment,

above all if they maintain a support and resource network to protect themselves with (Barry and Zissi, 1997). A number of authors, among whom Björkman and Hansson (2002) and Goodwin and Madell (2002) stand out, advocate the need to intervene, not only in the symptomatology, but also in the reduction of the health care needs and to achieve good social support in order to improve subjective QL. A study carried out by Nelson, Brent and Walsh-Bowers (1999) shows that people who live in places similar to supportive apartments and group homes reflect higher levels of objective and subjective QL than those people living in larger health care facilities, such as board-and-care homes, where a larger number of people live, relationships with the workers are not friendly and there is less independence. Finally, Liebe and Kallert (2001) conducted a study which compared five groups of psychotic patients in various health care facilities by measuring QL and basic psychotic symptomatology (subjective experience of the disease) (Peralta and Cuesta, 1994). They concluded that both variables showed worse scores in those who lived in community residences than in those who lived in their homes. However, they qualify their results by suggesting that it is not only the kind of health care facility that influences the situation, but there are also other variables which play an important role in the subjective QL of the schizophrenic person, such as the social support or the isolation perceived by the patient.

In this context, we present a preliminary cross-sectional study with the goal of describing and relating subjective QL and basic psychotic symptomatology in a sample of patients diagnosed with schizophrenia, and verifying the differences that might exist between and among such variables and the health care facility used by the ill person.

## METHOD

### *Participants*

The study sample consisted of 50 patients diagnosed with schizophrenia according to the criteria stated by the DSM-IV-TR (APA, 2002), all were older than eighteen ( $45.28 \pm 7.94$ ) and whose illness had lasted for more than ten years ( $22.96 \pm 8.17$ ). It consisted only of men due to the fact that there are no hospitalized women in the Psychiatric Hospital and so it was decided to select men only in order to avoid data bias. Although it may at first suppose a bias, the fact is that some authors have not found any difference between men and women when they have assessed the variables measured in this study (Vila, Ochoa and Haro, 2003). Most of the people, 32, who constitute 62% of the sample, were diagnosed with paranoid schizophrenia. The rest of them were classified as follows: fifteen people (30%) with undifferentiated or unspecified schizophrenia, 3 (6%) with residual schizophrenia, and one person was diagnosed with disorganized schizophrenia (2%). As for the marital status of the sample, 74% (37 patients) were single and 26% (13 patients) were married or had a stable relationship. The educational level of the sample was 29 patients (58%) who were illiterate or with primary studies and, out of the remaining 21 patients (42%), 15 patients representing 30% of the sample had completed grade eight, 5 patients (10%) had completed secondary, vocational or post obligatory studies, and one of them (2%) had university education.

All the patients were voluntary participants in the study, were informed about its objectives and belonged to various health care facilities of the Andalusian mental health network: group homes (n = 10) and supportive apartments (n = 10) provided by the Fundación Andaluza para la Integración Social del Enfermo Mental (FAISEM) (The Andalusian Foundation for the integration of the mentally ill); people with their own or relatives' homes and who regularly turn to associations such as the Asociación de Allegados de Enfermos de Esquizofrenia de Sevilla (ASAENES) (The Seville Association for close friends of people suffering from schizophrenia (n = 10); the acute unit (total hospitalization) of the Virgen Macarena University Hospital (n = 10), and patients of the Psychiatric Hospital in Seville (n = 10).

**Study design and instruments for assessment**

We carried out a descriptive cross-sectional study to which we applied the Frankfurter Beschwerde Fragebogen (FBF-3) (The Frankfurt psychopathological inventory) (Sullwold, 1977; Sullwold and Huber, 1986), which had been adapted to Spanish by Jimeno-Bulnes, Jimeno-Valdes and Vargas (1996). This is a self reported questionnaire consisting of 98 items in which the patient assesses the presence of subjective complaints in 10 clinical scales, namely loss of control, simple perception, complex perception, language, cognition and thought, memory, motor functions, loss of automatisms, anhedonia and distress, and irritability due to overstimulation. As a QL measure instrument we used the *Cuestionario Sevilla de Calidad de Vida (CSCV)*, (Seville Quality of

Life questionnaire), which had been designed as a specific measure of QL in schizophrenia (Giner *et al.*, 1999; Giner *et al.*, 2001). This instrument consists of 59 items grouped into two scales: one with 13 favourable aspect items measuring three factors, namely life satisfaction, self-esteem and harmony, and another scale with 46 unfavourable items which assess nine factors, namely lack of cognitive comprehension, loss of energy, lack of internal control, difficulty of emotional expression, difficulty of cognitive expression, estrangement, fear of loss of control, controlled hostility and self-esteem.

**Statistic Analysis**

The dependent variables went through a descriptive correlational study. Next, a variance analysis (ANOVA) was carried out among the various groups on the basis of the health care facility used. When significant differences were observed, the measures were compared in two by two by means of the t-student distribution. All the studies were completed by applying the SPSS 14 statistic pack (SPSS UK Ltd, Woking, United Kingdom).

**RESULTS**

First of all, we carried out a descriptive analysis of the scores of each of the participants in each one of the assessment instruments. Table 1 shows the means and standard deviations of each health care facility with each assessment instrument (CSCV and FBF-3) and the factors that they consist of.

	CH	VT (Pisos)	ASAENES	HUVM	HPP
<i>Cuestionario Sevilla de Calidad de Vida (CSCV) (Seville Quality of Life questionnaire)</i>					
F	3.48 (±0.58)	3.70 (±0.65)	3.28 (±0.69)	3.60 (±0.93)	2.88 (±1.15)
D	2.77 (±0.46)	2.55 (±0.73)	2.28 (±0.70)	2.52 (±0.82)	2.94 (±0.61)
SV	3.50 (±0.60)	3.76 (±0.78)	3.42 (±0.89)	3.58 (±1.08)	2.90 (±1.36)
AE	3.58 (±0.92)	3.73 (±0.59)	3.55 (±0.78)	3.43 (±1.00)	3.10 (±1.12)
ARM	3.40 (±0.60)	3.60 (±0.78)	3.65 (±0.61)	3.80 (±1.00)	2.75 (±1.22)
FAC	2.80 (±0.79)	2.48 (±0.84)	2.00 (±0.88)	2.48 (±0.63)	2.90 (±0.92)
PE	3.00 (±0.55)	2.58 (±0.75)	2.45 (±0.81)	2.75 (±1.03)	3.03 (±0.75)
FCI	2.96 (±0.65)	3.00 (±0.93)	2.91 (±1.05)	2.59 (±0.93)	3.25 (±0.92)
DEE	2.70 (±0.86)	3.36 (±0.75)	2.18 (±0.73)	2.44 (±0.84)	3.46 (±0.71)
DEC	2.63 (±0.56)	2.79 (±0.85)	2.43 (±0.88)	2.30 (±0.91)	3.10 (±0.57)
E	2.93 (±0.54)	2.73 (±0.81)	2.10 (±0.88)	2.80 (±1.07)	2.60 (±1.13)
MPC	2.23 (±0.54)	2.20 (±1.00)	1.83 (±0.60)	2.13 (±1.17)	2.30 (±1.22)
HC	2.20 (±0.67)	1.97 (±0.71)	1.77 (±0.74)	2.43 (±1.05)	2.67 (±1.13)
AU	3.23 (±0.72)	2.47 (±0.72)	1.93 (±1.10)	2.60 (±0.84)	2.87 (±1.18)
<i>Inventario Psicopatológico de Frankfurt (FBF) (The Frankfurt psychopathological inventory)</i>					
TOT	38.70 (±20.10)	36.10 (±22.30)	38.50 (±21.20)	33.20 (±22.20)	48.90 (±21.70)
PC	2.70 (±2.11)	3.30 (±2.26)	3.40 (±2.27)	2.30 (±2.31)	4.00 (±2.40)
PS	2.70 (±2.21)	2.30 (±2.21)	3.00 (±2.26)	2.50 (±2.01)	4.00 (±2.44)
P	3.90 (±2.46)	2.80 (±3.04)	3.50 (±2.54)	3.00 (±1.63)	4.10 (±2.55)
L	4.90 (±2.42)	5.10 (±3.41)	4.30 (±2.54)	3.20 (±3.04)	5.20 (±2.29)
CP	4.20 (±2.57)	5.20 (±3.04)	4.30 (±2.49)	4.10 (±3.17)	5.00 (±3.23)
ME	4.70 (±3.19)	5.30 (±2.90)	4.80 (±2.78)	3.60 (±2.50)	5.30 (±2.90)
MO	3.50 (±2.59)	1.90 (±2.55)	2.60 (±2.95)	2.30 (±2.35)	3.70 (±2.66)
PA	3.80 (±2.14)	3.80 (±2.39)	4.70 (±2.71)	4.40 (±3.02)	5.60 (±2.63)
D	3.10 (±1.79)	2.60 (±2.36)	3.20 (±2.34)	3.40 (±2.75)	6.00 (±2.74)
I	5.20 (±2.89)	3.80 (±2.44)	4.70 (±2.35)	4.40 (±2.50)	6.00 (±2.35)

**Table 1. Means and Standard Deviations of the CSCV and FBF-3 on the basis of the health care facility**

*Facilities:* PH (Protective homes); SA (Supportive apartments); ASAENES (*Asociación de Allegados de Enfermos de Esquizofrenia de Sevilla* = Seville's association for close friends of people suffering from schizophrenia); AUVM (Acute Unit. Seville's Hospital Universitario Virgen Macarena); PPH (Seville's Penitentiary Psychiatric Hospital). *Cuestionario Sevilla de Calidad de Vida (CSCV = Seville's Quality of Life Questionnaire):* F (Favorable); U (Unfavorable); LS (Life satisfaction); SE (Self esteem); ARM (Harmony); LCG (Lack of cognitive grasp); LE (Loss of energy); LIC (Lack of internal control); EED (Emotional expression difficulty); CED (Cognitive expression difficulty); E (Estrangement); FLC (Fear of losing control); CH (Controlled hostility); AU (Automatism). *Frankfurter Beschwerde Fragebogen (FBF-3) = The Frankfurt Psychopathological Inventory:* TOT (Total Inventory Score); LC (Loss of control); SP (Simple perception); CP (Complex perception); L (Language); CT (Cognition and thought); ME (Memory); MF (Motor functions); LA (Loss of automatism); D (Distress and Anhedonia); I (Overstimulation induced irritability).

When the relationship was assessed (Table 2), one can observe a clear relationship among the different CSCV and FBF-3 scales. In the same way, we can see how the total scores of both scales are significantly related in such a way that those subjects with lower basic

psychotic symptomatology have a favourable perception of their subjective quality of life ( $r = -.496, p < .01$ ), whereas those suffering from a larger number of basic psychotic symptoms have a negative assessment of their subjective quality of life ( $r = .304, p < .01$ ).

*Inventario Psicopatológico de Frankfurt (FBF-3) (The Frankfurt psychopathological inventory).*

	TOT	PC	PS	P	L	CP	ME	MO	PAQ	D	I
<b>F</b>	<b>-.496</b>	<b>-.474</b>	<b>-.319</b>	<b>-.343</b>	<b>-.428</b>	<b>-.368</b>	<b>-.327</b>	<b>-.321</b>	<b>-.510</b>	<b>-.551</b>	<b>-.477</b>
<b>D</b>	<b>.304</b>	<b>.665</b>	<b>.739</b>	<b>.657</b>	<b>.689</b>	<b>.659</b>	<b>.622</b>	<b>.568</b>	<b>.715</b>	<b>.7454</b>	<b>.619</b>
<b>SV</b>	<b>-.539</b>	<b>-.468</b>	<b>-.367</b>	<b>-.406</b>	<b>-.480</b>	<b>-.401</b>	<b>-.352</b>	<b>-.378</b>	<b>-.556</b>	<b>-.578</b>	<b>-.484</b>
<b>AE</b>	<b>-.269</b>	<b>-.319</b>	<b>-.040</b>	<b>-.132</b>	<b>-.246</b>	<b>-.242</b>	<b>-.130</b>	<b>-.094</b>	<b>-.362</b>	<b>-.358</b>	<b>-.295</b>
<b>ARM</b>	<b>-.509</b>	<b>-.489</b>	<b>-.426</b>	<b>-.359</b>	<b>-.405</b>	<b>-.336</b>	<b>-.384</b>	<b>-.366</b>	<b>-.439</b>	<b>-.534</b>	<b>-.500</b>
<b>FAC</b>	<b>.565</b>	<b>.516</b>	<b>.432</b>	<b>.418</b>	<b>.623</b>	<b>.420</b>	<b>.414</b>	<b>.392</b>	<b>.464</b>	<b>.490</b>	<b>.517</b>
<b>PE</b>	<b>.732</b>	<b>.569</b>	<b>.660</b>	<b>.614</b>	<b>.616</b>	<b>.621</b>	<b>.538</b>	<b>.536</b>	<b>.665</b>	<b>.681</b>	<b>.580</b>
<b>FCI</b>	<b>.737</b>	<b>.685</b>	<b>.635</b>	<b>.629</b>	<b>.638</b>	<b>.687</b>	<b>.624</b>	<b>.425</b>	<b>.639</b>	<b>.613</b>	<b>.509</b>
<b>DEE</b>	<b>.681</b>	<b>.616</b>	<b>.660</b>	<b>.516</b>	<b>.479</b>	<b>.520</b>	<b>.595</b>	<b>.373</b>	<b>.671</b>	<b>.668</b>	<b>.576</b>
<b>DEC</b>	<b>.735</b>	<b>.584</b>	<b>.656</b>	<b>.543</b>	<b>.702</b>	<b>.543</b>	<b>.646</b>	<b>.519</b>	<b>.661</b>	<b>.669</b>	<b>.570</b>
<b>E</b>	<b>.577</b>	<b>.378</b>	<b>.534</b>	<b>.529</b>	<b>.511</b>	<b>.479</b>	<b>.442</b>	<b>.530</b>	<b>.489</b>	<b>.514</b>	<b>.372</b>
<b>MPC</b>	<b>.503</b>	<b>.428</b>	<b>.554</b>	<b>.422</b>	<b>.386</b>	<b>.517</b>	<b>.292</b>	<b>.363</b>	<b>.414</b>	<b>.512</b>	<b>.304</b>
<b>HC</b>	<b>.238</b>	<b>.206</b>	<b>.308</b>	<b>.025</b>	<b>.252</b>	<b>.143</b>	<b>.156</b>	<b>.121</b>	<b>.260</b>	<b>.337</b>	<b>.180</b>
<b>AU</b>	<b>.510</b>	<b>.369</b>	<b>.536</b>	<b>.503</b>	<b>.383</b>	<b>.320</b>	<b>.354</b>	<b>.472</b>	<b>.413</b>	<b>.513</b>	<b>.396</b>

$p < .01; p < .05$  Table 2. Pearson's correlations between the CSCV and the FBF-3 scores

Once the relational analysis between subjective quality of life and basic psychotic symptomatology had been carried out, a multivariate analysis of variance (MANOVA) was used to verify whether there were significant differences between the group centroids by applying Wilks's Lambda test. Rao's F approximation was significant ( $F = 2.497, p = .016$ ). Later on, a multivariate analysis of variance was done between all the variables that had proved significant in the multivariate analysis in order to find out whether or not there was any type of effect in relation to the health care facility used by the participants assessed. In general terms, the findings show that the health care facility variable does not significantly affect any of the variables

studied except for the ARM (Harmony) scale of the CSCV ( $F = 2.798, p = .037$ ) and the D scale (distress and anhedonia) of the FBF-3 ( $F = 3.050, p = .026$ ). Then, the t student test was used to find out the mean difference to verify which health facility illustrated the influence shown in the scales indicated. Table 3 shows that the patients hospitalized in the Penitentiary Psychiatric Hospital show lower ARM (harmony) and greater D (distress and anhedonia) than the rest of the patients, who had been assessed in other health care facilities, namely protective homes, supportive apartments, ASAENES (Seville's association for close friends of people suffering from schizophrenia) and acute units.

	<i>Student's t</i>									
		<i>VT (Pisos)</i>		<i>ASAENES</i>		<i>HUVM</i>		<i>HPP</i>		
	Media	t	p	t	p	t	P	t	P	
<b>ARM (Harmony)</b>										
CH	3.37	-.719	.481	-1.009	.326	-1.146	.267	1.742	.099	
VT (Pisos)	3.60			.159	.876	.496	.626	<b>2.126</b>	<b>.048</b>	
ASAENE	3.65					-.402	.692	<b>2.372</b>	<b>.029</b>	
HUVM	3.80							<b>2.350</b>	<b>.030</b>	
HPP	<b>2.62</b>									
<b>D (Distress and anhedonia)</b>										
CH	3.10	.533	.601	.916	-.100	-.289	.776	<b>-2.795</b>	<b>.012</b>	
VT (Pisos)	2.60			.596	.576	.696	.495	<b>-2.964</b>	<b>.008</b>	
ASAENE	3.20					-.175	.863	<b>-2.449</b>	<b>.025</b>	
HUVM	3.40							<b>-2.112</b>	<b>.049</b>	
HPP	<b>6.00</b>									

$p < .05$  Table 3. Student's t distribution between health care facilities and the ARM and D variables

## DISCUSSION AND CONCLUSIONS

This study has found a clear relationship between basic symptomatology (subjective experience) and subjective QL. The relationship makes itself evident in the positive relationship between the total FBF-3 score

and the score in the unfavourable CSCV scale, and in the negative relationship which, on the other hand, is shown by the FBF-3 and the favourable CSCV scale. In other words, the people showing less basic symptomatology show greater life satisfaction, self esteem and harmony.

They feel more satisfied with the activities they perform in their daily life, with themselves and with the rest of the people surrounding them. However, the people with a greater score in the FBF-3 show less life satisfaction, self esteem and harmony; find it more difficult to understand what is happening around them (lack of cognitive grasp), feel they are more tired (lack of energy), cannot control what they feel or think (lack of internal control), find it difficult to relate affectively or emotionally (emotional expression difficulty), get disturbed when communicating with others or when they participate in conversations (cognitive expression difficulty) and have other problems, such as estrangement, fear of losing control, controlled hostility and automatism. In this respect, Leal *et al.* (1997) find a significant inverse correlation ( $r = -0.16$ ) between the favourable CSCV scale and the negative symptoms measured by the Positive and Negative Syndrome Scale (PANSS) (Kay, Fiszbein and Opler, 1987), to such an extent that the individuals with more negative symptoms have lower scores on the favourable scales. Furthermore, a direct relationship exists between unfavourable scales and positive symptoms ( $r = 0.41$ ). Following this line, other authors (Giner *et al.*, 2001) conclude that positive, negative and general symptomatology affect QL in schizophrenia. However, they invite a deeper analysis and a more detailed symptom assessment in which this study, we believe, would be included.

The work conducted by Bow-Thomas, Velligan, Millar and Olsen (1999) found a relationship between negative symptomatology and QL in all phases of the illness, unlike positive symptomatology, which is difficult to measure in the acute phases of the illness. However, these authors argue that the results need to be taken cautiously as the whole sample was taken from a hospital and they are all clearly influenced by the type of health care facility.

Another series of articles have reached findings similar to the ones in this study although the measures were, in the majority of cases, carried out in an objective way. Thus, Giner *et al.* (1999) found that psychotic symptoms affect QL although they do not bear in mind variables such as social support, educational needs or family relationships, due to the difficulty of obtaining this data in such a complicated sample.

The study by Karow, Moritz, Lambert, Schoder and Krausz (2005) obtains findings going in the same direction, as they find relationships between negative symptomatology and worse QL whereas the positive symptom relationship does not prove so clear and so they recommend new studies aiming at clarifying the relationship between symptomatology and subjective QL. If all seems to indicate the clear relationship between negative symptoms and subjective QL, other authors however find the same relationship with positive symptomatology (Kaskow *et al.*, 2001; Yu-Tao, Yong-Zhen, Chi-Ming, Wai-Kwong and Gabor, 2007, 2008).

Other studies fundamentally obtain relationships between negative symptoms and the general PANSS scale (Kay *et al.*, 1987), which gathers non specifically psychotic symptoms. In relation to this, depressive symptoms have a deleterious effect on the QL of schizophrenic patients (Bobes *et al.*, 2007; Narváez *et al.*, 2008; Shaun and Newhill, 2007). All of this justifies this present study, in which we try to give priority to subjective measures, that is, we really focus on what the schizophrenic person feels. Our intention is that, to those

treatments which now give priority to pharmacology, other alternatives which can alleviate these people's symptomatology, may be added and, in short, improve their QL.

As for the relationship among the context, basic psychotic symptomatology and subjective QL, our findings do not seem to confirm the influence of any health care facility on any of the two variables under study, unlike what has been observed in other studies (Mínguez *et al.*, 2005; Barry and Zissi, 1997; Bjorkman and Hansson, 2002; Goodwin and Madell, 2002), which do find a relationship between QL and place of residence, in such a way that the people living in the community have a better QL than the ones living in an institution. Perhaps we don't see this relationship in the present study, as the association is mediated by the presence of symptomatology. In this sense, Kaskow *et al.* (2001) pointed out the clear relationship between symptomatology and QL in a recent comparative study with communal or hospitalized patients.

Finally, the study by Liebe and Kallert (2001), very similar in its design to ours, finds symptomatology differences on the basis of health care facilities. They also argue that general life satisfaction does not systematically depend on the setting of the attention that these people make use of, but on other influential variables such as the assessment made of their own needs or of their purposes (goal achievement), which are generally affected by symptomatology. Consequently, QL is not only influenced by the fact that the environment may allow autonomy and independence, but also that social isolation is a variable to bear very much in mind. These findings may partially justify the results found by our study, namely that harmony differences can be significant depending on the health facility, as the people hospitalized in the Penitentiary Psychiatric Hospital have few relationships with the outside world and with the rest of the inmates, which might account for the low QL levels in this health care facility in respect to the other facilities. The same goes for distress and anhedonia, another significant variable, felt by the inmates when they feel deprived of freedom.

On the basis of the above comments, we conclude that there is a clear relationship between QL and basic psychotic symptomatology (subjective experience) in schizophrenia, in such a way that the greater the symptomatology the worse the QL expressed by the person suffering from the illness. Furthermore, we believe that there is no significant relationship among QL (measured by the CSCV), basic psychotic symptomatology (measured by the FBF-3) and the health care facility. This conclusion, which has methodological limitations, such as the sample size and the need to control other variables which make up QL does not nullify bringing this work close to such a complex illness as schizophrenia, from an eminently subjective perspective, as much as in the clinic as in the measure of QL. We believe that this change of perspective will better allow us to address and develop new therapeutic strategies, as we show that schizophrenic patients' control of their own symptoms is fundamental to improve their QL.

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## **Job stress and burnout syndrome at university: A descriptive analysis of the current situation and review of the principal lines of research**

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### **ABSTRACT**

In recent decades, the university system has been affected by a number of pressures deriving from economic, political, social, cultural and technological changes, which have been taking place along the path of the so-called globalized society and as a consequence of the creation of the European Space for Higher Education. Decreasing resources, increasing demand and lack of political support have turned the university system into a favourable occupational environment for psychosocial risks such as job stress and burnout syndrome. The main lines of research on job stress and burnout syndrome in the university have been reviewed in order to answer three questions, namely whether stress and burnout can be considered a health problem in the university context, what variables are the object of study and where further research studies should lead to.

**Key words:** job stress, burnout, university, descriptive analysis

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### **INTRODUCTION**

Over the last two decades, important world-wide changes have taken place in the university sector, turning it into a source of stress. Among them we can highlight the drop in salaries in countries such as the United States of America, the United Kingdom and Australia, the increase of increasingly unstable temporary academic positions and the pressure and burden of work due to the need to attract external financing (Fisher, 1994).

Spain has also gone through important changes over the last few decades which have affected the university system. In order to adjust to the European Space for Higher Education, university teaching has been submitted to changes which have resulted from European convergence policies; and to the deep social, cultural and political transformations that we are witness to, and which are the subsequent products of globalization, the knowledge society and the strong presence of new technologies in our daily life (UNESCO, 1998; Michevila and Calvo, 2000). In addition to this, it is likely that this scenario of transformation is going to affect the Teaching and Research Staff (TRS) and the Administration and Service Staff (ASS) working at our universities.

In this sense, the new challenges that these changes impose on teachers go beyond the restructuring of the educational system and fully affect the very concept of the teaching profession (González, 2005).

The teacher is regarded as a critical factor in this process of change. He or she is expected to be committed, devoted and adaptable to a new professional profile based on the development of multiple responsibilities. However, all these changes that the teacher needs to become adjusted to, take place in a continuous fashion, in short time periods, and come accompanied by reductions in university budgets and an increase in the number of students. In addition to all of this, we need to consider the situation of job insecurity that a large number of Spanish university teachers find themselves in, as well as the increase in job competitiveness.

In the same way, these changes also affect the administration and service staff. For example, the change in knowledge management processes by means of information and communication technologies implies changing educational policies and some functions, not only of the teachers, but of all the professionals implied, that is, librarians, managers, clerks, etc. These changes also affect the forms of social interaction established by these professionals among one another and between teachers and students. In the same way as the teachers, these professionals need to get familiar with the new teaching plan organization, assessment systems, new degrees and their validations, etc, which implies an undoubted increase in their volume of work.

Therefore, it can be said that the situation that many Spanish universities currently live under points towards an increase of work requirements or demands and a loss of control, due to the lack of sufficient resources or having to cope with new situations, all of which creates an ideal picture for the appearance of job

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stress, according to the model of Karasek (1979) or of Lazarus and Folkman (1984) and, in consequence, for the emergence of the burnout syndrome at work.

All of this accounts for the current interest in the study of stress and the burnout syndrome in university contexts. Nevertheless, in order to find out the professional effect of the dynamic of changes to the adaptation to the European Space for Higher Education on university workers, it would be necessary to carry out a study of stress and the burnout syndrome in depth based on university research studies developed in general terms. For this reason, the main goal of this work has been to review the studies on job stress and burnout in university staff, up until now, and which seeks to answer the three following questions:

- To what extent do the staff manifest job stress and the burnout syndrome.
- What the main variables in these investigations are.
- Where future lines of research might lead to.

The review has been carried out by attending to research studies on job stress and burnout at university which had been published in the main national and international databases for psychology, education and health sciences (Psycodoc, PsycInfo and Medline, among others.). The criteria for the search were: a) carried out in the last fifteen years; b) national and/or international research studies; c) focused on the study of job stress and/or burnout; d) focused on teaching and non teaching staff.

A total number of 30 studies was found (See Appendix 1), 19 of which refer to TRS (6.3%) and 11 to the AdSS (3.7%). Most of the studies provide data on job stress (19 studies versus 11 which study the burnout syndrome). Whereas studies on job stress more often use samples from the whole staff (11 studies with TRS and AdSS versus 8 studies only with AdSS samples), research studies on burnout focus almost exclusively on the teaching staff (9 studies with a TRS sample versus 2 studies with an AdSS sample). Out of the research studies selected, 9 are national and 21 are international. It is worth pointing out that national studies have mainly focused their attention on the burnout syndrome and only in the teaching group (7 national studies, versus 4 international ones).

## DISCUSSION

Attending to the initial questions, the main findings are now discussed. As for the first question posed, *to what extent do the staff manifest job stress and the burnout syndrome*, the reviews point out that the teaching group is currently one of the most affected by job stress syndromes, whose consequences can be harmful both for the worker and for the centre or organization that he or she works for.

Stress and burnout in university staff can be regarded as an extensive, serious and costly problem. It can be considered extensive if we observe the prevalence of data provided by the national and international research related to this area of study. In this sense, for example, in the case of experiences of stress, authors such as Winefield and Jarrett (2001) and Winefield, Gillespie, Stough, Dua and Hapuarachchi (2003) reported that between 40 and 50% of university staff showed indicators of job stress. Dua (1994) and Sharpley, Reynolds, Acosta and Dua (1996) point out that the prevalence is around 25%. These figures surpass the 15%

found in Spain by León and Avargues (2004; 2007). However, it is much higher than the one provided in the national surveys on job stress carried out in the working population. For example, according to the *VI Encuesta Nacional de Condiciones de Trabajo* (the Sixth National Survey on Working Conditions), carried out by the Instituto Nacional de Seguridad e Higiene en el Trabajo (the National Institute of Hygiene and Security at Work), 6.3% of the participating workers point to job stress as an illness causing them health problems (Almodóvar and Pinilla, 2007)

In addition to this, most of the studies on stress in university personnel have shown that its prevalence is higher in the case of teachers (Dua, 1994; Sharpley *et al.*, 1996; Winefield, 2000; Winefield and Jarrett, 2001; Winefield *et al.*, 2003) and that, in some cases, it becomes even higher than in some other professions (Avargues, 2006; Winefield, 2000). However the study conducted by Avargues (2006) shows that out of 32.7% of the staff with acute symptomatology, the percentage of AdSS participants was higher than that of the TRS (37.7% versus 29.5%)

As for the burnout syndrome, in the case of the teaching and research staff, the figures of prevalence in Spain range between 16.4% (Durán, Extremera and Rey, 2001), 18.4% of teachers with maximum level burnout, reported by Paredes (2000) and 22.9%, who show the most extreme level, in a study carried out by Guerrero (2003). In addition to this, as for the prevalence of burnout syndrome, León and Avargues report that 13% of the teachers and non teachers surveyed show the three dimensions of the syndrome.

Avargues (2006) studies the *core* of burnout variable, which is defined from the starting point of the two negative dimensions of the syndrome, namely emotional tiredness and depersonalization, and finds that 10.7% of the staff show high scores in this variable and, as the whole staff is also considered, 8.4% of the teaching and research staff shows high scores in emotional tiredness and depersonalization, versus 14% in the administrative and service staff.

With all of this, the data provided seems to indicate that we are in face of a rather frequent problem whose consequences make it something serious and costly. To be specific, there are studies that point out that the experience of stress may affect job satisfaction, commitment to the job and the organization, the appearance of anxiety states, an increase in days off, visits to the doctor, accidents at work and illnesses (Dua, 1994; Sharpley *et al.*, 1996). Furthermore, in relation to university teachers, Boyd and Wylie (1994) report that overload and job stress affect the time that the professional dedicates to research, publication of the findings and professional development, which has a negative impact on the teaching and research standards. Stress is also related to increase of interpersonal conflicts both at work and at home, and to physical and emotional health problems. In the same way, the study of teachers' sick leave in Badajoz city and province from 1990 to 1995 indicates that 37% of these leaves were related to stress related health problems, among them, hypertension, insomnia, depression and gastrointestinal illnesses (Guerrero, 2003).

On the basis of all the above, and as an answer to the first of the three questions posed, we can state that job stress and the burnout syndrome are frequent problems that can affect the health of university staff.

If we go onto the second question, on *the main variables under study*, it has to be said that job stress in the teaching area in Spain has focused especially on primary and secondary education. On the other hand, there are only a few studies on job stress in the university context, and this seems to be an international tendency (Avargues, 2006). This may be due to the fact that university teaching has traditionally been regarded as a low stress occupation, as it started from the assumption that university staff enjoyed work stability, a low work load, freedom to propose their own research interests and flexibility of time. All in all, university teachers have usually enjoyed more freedom to decide what, when and how they want to teach, which positively affects their well-being.

Authors such as Taris, Schreur y Van Iersel – Van Silfhout (2001) do not find it appropriate to generalize the results obtained in primary and secondary education and to extend them to the university area. They argue that university teaching cannot be such an important stress factor as it is in secondary education. In this sense, Abouserie (1996) conducted a study with university teachers and found that they considered research and not teaching the main source of stress. Primary and secondary education teachers carry out only one part of the tasks to be undertaken by university teachers, the one of teaching itself.

The studies reviewed show: a) Most of the works focus on finding out the causes triggering stress and the burnout syndrome (16 studies; 5.3%) and the influence of demographic and work variables (14 studies; 4.6%). Very few centre their attention on the study of personal moderating variables. b) The reasons for job stress in higher education are multifarious. Among the most often mentioned are budget cuts, excessive weekly hours of work, lack of time to respond to the work load, lack of resources, conflictive and ambiguous role, little control over issues affecting tasks that are part of the job position, little opportunity to promote and control one's professional career, relationships with students, little social acknowledgement and reward for their professional labour, low salaries and job insecurity. Such determining factors can be summarized into three categories, namely demands, control and social support, which interact with one another according to the assumptions of some theoretical models such as the one of demand – control or that of conservation of resources (Taris *et al.*, 2001). c) It seems to be that job stress does not affect all workers in the same way. Some personal characteristics give rise to more or less sensitivity to the psycho-social factors responsible for occupational tension. Among the personal variables studied, the following stand out (See Appendix 1): coping strategies (4 studies; 13.3%), social support (3 studies; 10%), perceived efficiency (3 studies; 10%), optimism (1 study; 3.3%), stress resistant personality (1 study; 3.3%), engagement (1 study; 3.3%), Type A behaviour pattern (1 study; 3.3%) and locus of control (1 study; 3.3%).

Finally, in relation to the third question posed, namely *Where future lines of research might lead to*, it is worth pointing out that the professional group with the most amount of attention from researchers is the academic one. Most of them focus on the teaching function. They forget about the research issue in spite of the fact that the teachers themselves regard research studies (theses, dissertations, and so on) as the main reason for stress overload together with making lessons compatible

with research, writing articles and then disseminating the findings in scientific or technical journals. The analysis of job stress in the university ambience and burnout syndrome would not be complete if it did not include the work of the administration and service staff.

As stated above, empirical evidence makes us realise that job stress and the burnout syndrome are rather frequent health problems among university teachers and the administration and service staff. As a consequence, it is not unusual that most of the research studies have focused on finding out about the degree of the problem and the organizational factors that trigger it.

Given that the situation of change that the university system is and is going to be submitted to, is unlikely to be modified and requires an effort of personal adaptation, it would be interesting to keep dealing, in depth, with personal variables which may act as moderators in the experience of stress and in the appearance of the syndrome. As a matter of fact, it might be extremely useful for elaborating prevention programmes and treatment for job stress and the burnout syndrome in the university.

In short, it would be interesting for future research studies to expand the study of stress and burnout trigger types, which should include teachers' research and paperwork overload as well as other stress factors not yet studied which might derive from the changes taken place in the university context. In the same way, such studies should also consider the AdSS, as there are very few and, as the previous reviews show, they go through considerable stress and burnout. In addition to this, it is necessary to study personal variables in depth, as few research studies do, although they show the important role they play as modulators of the stress experience and burnout syndrome (Avargues, 2006).

Finally, it is worth pointing out that the very idiosyncrasy of each university, namely its size, the fact that it is public, private, etc. is one more limitation to this review, as this information has not been included in most of the publications. This implies an important bias to interpret the data and makes it important to be cautious when generalizing results to the whole university group.

## CONCLUSIONS

The findings of our study lead to the following conclusions:

1. There is little research carried out on job stress and burnout at university.
2. Generally speaking, the studies are descriptive and focus on the analysis of the prevalence of these syndromes and their consequences.
3. The studies carried out have centered on the influence of socio-demographic and occupational variables triggering stress. Little attention has been paid to the study of personal variables that might act as syndrome moderators.
4. Future lines of research should go more in depth into these issues and also regard differences by professional groups and the study of personal variables.

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**APPENDIX 1. Main lines of research on stress and burnout at university**

<b>National</b>		
<b>Authors, studies and year of publication</b>	<b>Staff <sup>(1)</sup></b>	<b>Variables studied</b>
Paredes, M. C. (2000). Caracterización multivariante del síndrome de burnout en la plantilla docente de la Universidad de Salamanca. (Doctoral thesis). Universidad de Salamanca.	TRS	Burnout Socio-demographic variables
Caramés, R. (2001). Causas del "eore of burnout" del profesorado universitario. VII Congreso Español de Sociología, Salamanca.	TRS	Burnout Work tension Socio-demographic variables Perceived health Support received from relatives and friends Stressful life events Teaching role
Durán, M. A., Extremera, N. and Rey, L. (2001). Burnout en profesionales de la enseñanza. Un estudio en educación primaria, secundaria y superior. <i>Revista de Psicología del Trabajo y de la Organizaciones</i> , 17 (1), 45-62.	TRS	Burnout Job satisfaction Organizational commitment
Guerrero, E. (2003). Análisis pormenorizado de los grados de burnout y técnicas de afrontamiento del estrés docente en profesorado universitario. <i>Anales de Psicología</i> , 19 (1), 145-158.	TRS	Burnout Socio-demographic variables Coping strategies
León, J. M. and Avargues, M. L. (2004). <i>Evaluación del estrés sociolaboral en la Universidad de Sevilla</i> . Memoria de investigación. Madrid: Fundación Mapfre Medicina.	TRS and AdSS	Burnout Job stress
León, J.M. and Avargues, M. L. (2007). Evaluación del estrés sociolaboral en el personal la Universidad de Sevilla. <i>Revista Mapfre Medicina</i> , 18(4), 323-332.		Socio-demographic and work variables Working conditions
Cifre, E., Llorens, S. and Salanova, M. (2003). Riesgos psicosociales en profesores universitarios. ¿Existen diferencias atendiendo a su categoría profesional? <i>Revista de psicología social aplicada</i> , 13, 29-53.	TRS	Burnout Working conditions (obstacles/facilitators)
Salanova, M., Cifre, E., Grau, R. M. and Martínez, I. M. (2005). Antecedentes de la autoeficacia en profesores y estudiantes universitarios: un modelo causal. <i>Revista de psicología del trabajo y de las organizaciones</i> , 21 (1-2), 159-176.	TRS	Burnout Engagement Working conditions (obstacles/facilitators)
Avargues, M. L. (2006). El core of burnout y los síntomas de estrés del personal de la Universidad de Sevilla: Prevalencia, factores psicosociales y análisis del efecto mediador de la competencia personal percibida. (Doctoral Thesis). Sevilla: Servicio de publicaciones de la Universidad de Sevilla.	TRS and AdSS	Burnout Work stress Socio-demographic and work variables Working conditions Perceived personal competence
Otero, J. M., Santiago, M. J. and Castro, C. (2008). Una aproximación integradora al estudio del burnout en profesores de universidad. <i>Psicothema</i> , 20 (4), 766-772.	TRS	Burnout Working conditions Stressful life events Everyday setbacks Type A behaviour pattern Stress resistant personality Optimism Social support, etc.
<b>International</b>		
<b>Authors, studies and year of publication</b>	<b>Staff</b>	<b>Variables studied</b>
<b>USA</b>		
Blix, A. G., Cruise, R. J., Mitchell, B. M. and Blix, G. G. (1994). Occupational stress among university teachers. <i>Educational Research</i> , 36, 157-169.	TRS	Job stress Burnout Motivational style Rewards at work Job satisfaction Health problems
Etzel, E. F., Lantz, C. D. and Yura, C. A. (1995). Alcohol and drug use, and sources of stress: a survey of university faculty, staff and administrators. <i>Employee Assistance Quarterly</i> , 11 (2), 51-58.	TRS and AdSS	Sources of stress Alcohol and drug use
Hogan, M. J., Carlson, J. G. and Dua, J. (2002). Stressors and stress reactions among university personnel. <i>International Journal of Stress Management</i> , 9 (4), 289-310.	TRS and AdSS	Job and other stress Social support Coping styles Physical health and emotional reactions
<b>Australia</b>		
Dua, J. K. (1994). Job stressors and their effects on physical health, emotional health, and job satisfaction in a university. <i>Journal of Educational Administration</i> , 32, 59-78.	TRS and AdSS	Job stress Stressors at work and outside Job satisfaction Physical and emotional health
Sharpley, C. F., Reynolds, R., Acosta, A. and Dua, J. K. (1996). The presence, nature and effects of job stress on physical and psychological health	TRS and AdSS	Job stress and outside work Anxiety

at a large Australian University. <i>Journal of Educational Administration</i> , 34, 73-86.		Health
Winefield, A. H. and Jarrett, R. (2001). Occupational stress in university staff. <i>International Journal of Stress Management</i> , 8 (4), 285-298.	TRS and AdSS	Job stress Stress sources or triggers Socio-demographic and work variables
Gillespie, N. A., Walsh, M., Winefield, A. H., Dua, J. and Stough, C. (2001). Occupational stress in universities: staff perceptions of the causes, consequences and moderators of stress. <i>Work and Stress</i> , 15 (1), 53-72.	TRS and AdSS	Job stress Stress sources Consequences Coping strategies
Winefield, A. H., Gillespie, N., Stough, C., Dua, J. and Hapuararchi, J. (2003). <i>Occupational stress in Australian universities: a national survey</i> . Melbourne: National Tertiary Education Union.	TRS and AdSS	Job stress Stressors Socio-demographic variables
<b>Hong-Kong</b>		
Leung, T., Siu, O. and Spector, P. E. (2000). Faculty stressors, job satisfaction, and psychological distress among university teachers in Hong Kong: the role of locus of control. <i>International Journal of Stress Management</i> , 7, 121-138.	TRS	Job stress Job satisfaction Stressors Socio-demographic variables Locus of control
<b>Colombia</b>		
Viloria, H. and Paredes, M. (2002). Estudio del síndrome de burnout o desgaste profesional en los profesores de la Universidad de los Andes. <i>Educere Investigación</i> , 6 (17), 29-36.	TRS	Burnout Socio-demographic variables
<b>Mexico</b>		
Ponce, D. and Carlos, R. (2005). El síndrome del "quemado" por estrés laboral asistencial en grupos de docentes universitario. <i>Revista de investigación en psicología</i> , 8 (2), 87-112.	TRS	Burnout Socio-demographic variables Teaching condition. Specialty Sports practice Health problems
Pando, M., Castañeda, J. D., Gregori, M. et al (2006). Factores psicosociales y síndrome de burnout en docentes de la Universidad del Valle de Atemajac, Guadalajara, México. <i>Salud Tab</i> ; 12 (3), 523-529.	TRS	Burnout Socio-demographic variables Working conditions
<b>The Netherlands</b>		
Hetty Van Hemmerk, I. J. (2002). Gender differences in the effects of coping assistance on the reduction of burnout in academic staff. <i>Work and Stress</i> , 16 (3), 251-263.	TRS	Burnout Job satisfaction Socio-demographic variables Working conditions Coping strategies
<b>Germany</b>		
Taris, T. W., Schreurs, P. J. G., and Van Iersel-Van Silfhout, I. J. (2001). Job stress, job strain, and psychological withdrawal among Dutch university staff: towards a dual process model for the effects of occupational stress. <i>Work and Stress</i> , 15 (4), 283-296.	TRS	Job strain Cynicism Organizational commitment Intention to change working shift
<b>Check Republic</b>		
Paulik, K. (2001). Hardiness, optimism, self confidence and occupational stress among university teachers. <i>Studia Psychologica</i> , 43 (2), 91-100.	TRS	Job stress Hardiness Optimism Self-confidence
<b>United Kingdom</b>		
Bradley, J. and Eachus, P. (1995). Occupational stress within a U.K. Higher Education Institution. <i>International Journal of Stress Management</i> , 2, 145-158.	TRS	Job stress Stress sources Socio-demographic variables
Wilkinson, J. and Joseph, S. (1995). Burnout in university teaching staff. <i>The Occupational Psychologist</i> , 27, 4-7.	TRS	Job stress Burnout Stress sources Socio-demographic variables
Abouserie, R. (1996). Stress, coping strategies and job satisfaction in university academic staff. <i>Educational Psychology</i> , 16, 49-56.	TRS	Job stress Work satisfaction Stress sources Coping strategies
Oshagbemi, T. (1998). The impact of age on the job satisfaction of university teachers. <i>Research in Education</i> , 59, 95-108.	TRS	Job stress Job satisfaction Socio-demographic variables
<b>New Zealand</b>		
Boyd, S. and Wylie, C. (1994). <i>Workload and stress in New Zealand universities</i> . New Zealand: New Zealand Council for Educational Research and the Association of University Staff of New Zealand.	TRS and AdSS	Job stress Stress sources Socio-demographic variables
Chalmers, A. (1998). <i>Workload and stress in New Zealand Universities in 1998</i> . New Zealand: New Zealand Council for Educational Research and the Association of University Staff of New Zealand Wellington.	TRS and AdSS	Job stress Work overload

(1) TRS = Teaching and research staff; AdSS = Administration and service staff

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The fourth page is to again contain the title of the article, without the names of the authors, and the text is to be developed. The structure or sections to be included in the papers are specified in the specific norms for each type of publication: empirical (see paragraph 14), theoretical (see paragraphs 15 to 17) or clinical cases (see paragraphs 18 to 21). Tables and illustrations (graphics, figures, etc.) contained in papers are to be submitted separately, each one in a different page, correlatively numbered and together with a header containing the number and title of the same allowing the clear identification of its content. The desired and approximate place for tables and / or illustrations is to be indicated in the text. Tables are to be simple and in accordance with the norms and styles of APA and are not to include vertical lines.

All quotations appearing in the paper are to be present in the list of references and all references are to be quoted in the text. Quotations are to be inserted in the text (never as footnote). Authors' surnames are to be written in lower-case with the exception of the first letter. Initials of names are not to be specified unless necessary in order to distinguish two authors with the same surname (Example: J.M. Zarit y Zarit, 1982).

If the author's surname is part of the narration, only the year of publication of the article is to be included between brackets (example: According to Olesen (1991) three different types of sensory afferents in migraines can be distinguished...). If the surname and publication date are not part of the narrative, both elements are to be included

between brackets, separated by a comma. (Example: Three different sensory afferents in migraines can be distinguished (Olesen, 1991)...

If a paper has two authors, both surnames are to be quoted every time the reference appears in the text (ex: Folkman and Moskowitz (2004) reviewed the situation of the investigation of the confrontation strategies...). If a paper has three, four or five authors, all of them are to be quoted the first time the reference appears in the text, and, in the following quotations of the same paper, only the surname of the first author followed by the phrase *et al.* and the year of publication are to be written (for ex: Rodríguez, Terol, López and Pastor (1992) adapted the questionnaire...As mentioned before, Rodríguez *et al.* (1992) adapted the questionnaire...). If a paper has six or more authors, then only the surname of the first author is to be mentioned followed by the phrase *et al.* together with the date of publication, as from the first quotation in the text.

If two or more works by different authors are quoted in a same reference, they will be written alphabetically, surnames and respective publication dates separated by a semicolon within the same brackets (for example: ...it is absurd to dissociate the confronting strategies from the personality of the person using them ((Bouchard, 2003; Bouchard, Guillemette and Landry-Léger, 2004; David and Suls, 1999; Ferguson, 2001; Vollrath and Torgersen, 2000)...). If there are several quotations of the same author, the surname and publication dates of the different works are to be written separated by commas and followed by a letter if being from the same year (for example: ...as stated by McAdams (1995, 1997a, 1997b, 1997c)...).

The list of bibliographic references is to appear in a new page, at the end of the paper, in alphabetical order by the authors' surnames and initials. The second line of each entry of the list is to be indented in five spaces (one indentation). The titles of books or journals are to be written in italics and, in the case of journals, the italics are to cover not only the title but up to the number of the issue (including the commas before and after the issue number). Only one space is to be left after every punctuation mark. For example:

Aspinwall, L. G., and Taylor, S. E. (1997). A stitch in time: self-regulation and proactive coping. *Psychological Bulletin*, 121, 417-436.

Lazarus, R. S. (2000). *Estrés y emoción. Manejo e implicaciones en nuestra salud*. Bilbao: Desclée de Brouwer. (Orig., 1996).

The format of periodic publications is to be the following: Author, Y. Y. (year). Title of Article. Title of journal, issue, number, pages. For example:

Amirkhan, J. H. (1990). A factor analytically derived measure of coping: the Coping Strategy Indicator. *Journal of Personality and Social Psychology*, 59 (5), 1066-1074.

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Miró, J. (2003). *Dolor crónico. Procedimientos de evaluación e intervención psicológica*. Bilbao: Desclée de Brouwer.

In the case of chapters of books, the format is to be: Author, Y. Y. (year). Title of the quoted work. Directors, Publishers, Compilers or Coordinators (Dir., Pub., Comp. or Coord.), Title of the Book (pages). Place of Publication: Publisher.

Sánchez-Cánovas, J. (1991). Evaluación de las estrategias de afrontamiento. En G. Buela-Casal y V. E. Caballo (Eds.), *Manual de Psicología Clínica Aplicada* (pp 247-270). Madrid: Siglo XXI.

References to lectures are to have the following format: Author(s) followed by the year and month between brackets, the title of the lecture in italics, name of the conference and city where celebrated. For example: Beixo, A. (2003, mayo). *Personalidad y afrontamiento de enfermedades crónicas*. Comunicación presentada en el III Congreso Internacional de Psicología de la Salud, Sevilla, España.

References to electronic resources have to provide, at least, the title of the resource, date of publication or date of access and the address (URL) of the Web resource. If possible, the author of the resource is to appear as well. The basic format is to be: Author of the webpage. (Publication date or date of review of the page, if available). Title of the webpage or place. Recovered on(Date of Access), from (URL-address). For example:

Sanzol, J. (2001). Soledad en el anciano. Recovered on May 12 of 2004, from <http://www.personal.uv.es/sanzol>.

In case of doubt on any other rule for publication not contemplated above, the guidelines established in the fifth edition of the Publication Manual of the American Psychological Association (2001) are to be followed.

#### Specific Norms for empirical works:

Articles of this section are to be relevant contributions in the field of Clinical and Health Psychology. They will follow the logical order and a clear and structured presentation according to the following order:

Introduction and Justification of the work.

Objectives and hypothesis

Method: participants; design, variables and control conditions; materials and / or instruments and procedure.

Results

Discussion

Conclusions

References

**Specific Norms for theoretical works:**

The Annuary of Clinical and Health Psychology gathers theoretical articles from different points of view (cognitive, dynamic, behavioural, systemic, etc.) that represent important contributions on the different contemplated contents.

Articles in this section are to contain, as well as the others, a logical order and a clear and structured presentation. They are to express a justification for the relevance of the subject dealt with (in the introduction) and an express practical contribution so that the professional may obtain a reference of the application nature (independently from the theoretical line) of the subject to be treated (in the discussion of the same).

The structure is to be the following:

Introduction and thesis (aspect to be expound or defended)

Discussion

Conclusions (short and clearly delimited).

References.

**Specific norms for the exposition of clinical cases:**

In this section, the description of one or more clinical cases is to be collected, which presume a contribution and / or important repercussion to the knowledge of the analyzed process, due to their peculiarities.

Articles in this section, besides following a logical order and clear presentation, may follow these structures:

Theoretical Background Or: a) Introduction  
Participants b) Description of the clinical case(s)  
Processes for Assessment c) Discussion  
Treatment d) References  
Results  
References

In the description of cases, no real name or initials of the patients with whom the research for publication has been performed are to be mentioned.

**Review and Publication of Works:**

Works meeting the requirements mentioned above will be anonymously reviewed by experts on the subject, who will inform the direction of the journal of the valuation and possible modifications to be made to the same. Such valuation will be sent by the direction to the author within a maximum period of three months.

Once the article has been valued, modified (if applicable), reviewed and definitely accepted, the publication of the article is to be determined by the direction and the main author is to be informed of the date and issue where the article is to be published. In any case, the final decision for publication of an article is responsibility of the direction of the journal.

Accepted articles not appearing in the last issue of the journal, are to be published in the next editions, and, in the meantime, they will be kept in the list of accepted articles pending publication.

Articles not meeting the established norms or not accepted for publication will neither be submitted to review nor given back to the authors, although the reasons for their exclusions are to be notified. In any case, the journal reserves the right to introduce modifications appropriate for the fulfilment of the established norms.

The delivery of an article to the Annuary of Clinical and Health Psychology assumes the acceptance of all the above mentioned norms by the authors of the submitted original work.



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Anuario de Psicología Clínica y de la Salud / Annuary of Clinical and Health Psychology would like to thank all our reviewers for this volume 5 - *Updates in Clinical and Child-Juvenile Health Psychology* - who did such a excellent job:

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