3
VOL. 28 - 2007
SEPTIEMBRE - DICIEMBRE
REVISTA DEL CONSEJO GENERAL DE COLEGIOS OFICIALES DE PSICÓLOGOS
ISSN 0214 - 7823

PAPELES DEL PSICÓLOGO

PREDICCIÓN DE LA VIOLENCIA

PSICOLOGÍA DE LA DELINCUENCIA
PELIGROSIDAD Y VIOLENCIA EN LOS TRASTORNOS MENTALES - VIOLENCIA SEXUAL

Sumario
Contents

REVISTA DEL CONSEJO GENERAL DE COLEGIOS OFICIALES DE PSICÓLOGOS

Sección monográfica

145. PRESENTACIÓN: LA PREDICCIÓN DE LA VIOLENCIA
Andrés Pueyo, A. y Redondo, S.
147. La psicología de la delincuencia
Santiago Redondo Illescas y Antonio Andrés Pueyo
157. Predicción de la violencia: Entre la peligrosidad y la valoración del riesgo de violencia
Antonio Andrés Pueyo y Santiago Redondo Illescas
174. Valoración del riesgo de violencia en enfermos mentales con el HCR-20
Karin Arbach y Antonio Andrés Pueyo
187. El riesgo de reincidencia en agresores sexuales: investigación básica y valoración mediante el SVR-20
Santiago Redondo Illescas, Meritxell Pérez y Marian Martínez

Otras aportaciones

196. El adolescente ante las tecnologías de la información y la comunicación: internet, móvil y videojuegos
Montserrat Castellana Rosell, Xavier Sánchez Carbonell, Carla Graner Jordana y Marta Beranuy Fargues
205. Cómo evaluar el daño moral como consecuencia de accidentes de tráfico: Validación de un protocolo de medida
Ramón Arce y Francisca Fariña
211. Desarrollo de los procesos atencionales mediante «actividades adaptadas»
Luis Alvarez, Paloma González-Castro, José Carlos Núñez, Julio Antonio González-Pienda, David Alvarez y Ana Bernardo

Special Section

145. INTRODUCTION: VIOLENCE RISK ASSESSMENT
Andrés Pueyo, A. y Redondo, S.
147. The Psychology of Criminal Conduct
Santiago Redondo Illescas y Antonio Andrés Pueyo
157. Dangerousness and violence risk assessment
Antonio Andrés Pueyo y Santiago Redondo Illescas
174. Violence Risk Assessment in mental disorders with the HCR-20
Karin Arbach y Antonio Andrés Pueyo
187. Violence and sexual offenders' recidivism: basic research and risk assessment with SVR-20
Santiago Redondo Illescas, Meritxell Pérez y Marian Martínez

Regular articles

196. The adolescent faced with technologies of information and the communication: internet, mobile phone and videogames
Montserrat Castellana Rosell, Xavier Sánchez Carbonell, Carla Graner Jordana y Marta Beranuy Fargues
205. Assessing psychological injury in motor vehicle insurance compensation claims: Validating a customized protocol.
Ramón Arce y Francisca Fariña
211. Development of attentional processes by means of "adapted activities"
Luis Alvarez, Paloma González-Castro, José Carlos Núñez, Julio Antonio González-Pienda, David Alvarez y Ana Bernardo

PAPELES DEL PSICÓLOGO

Edita
Consejo General de Colegios Oficiales de Psicólogos, España

Director
Serafín Lemos Giráldez

Directores asociados
José Ramón Fernández Hermida, Manuel Enrique Medina Tornero, José Carlos Núñez Pérez y José María Peiró Silla

Diseño y Maquetación
Juan Antonio Pez Martínez

Redacción, administración y publicidad
Juan Antonio Pez Martínez
Consejo General de Colegios Oficiales de Psicólogos
C/ Conde de Peñalver, 45-5º Izq.
28006 Madrid - España
Tels.: 91 444 90 20 - Fax: 91 309 56 15
E-mail: papeles@correo.cop.es

Impresión
Intigraf S.L.
C/ Cormoranes, 14. Polígono Industrial La Estación.
28320 Pinto Madrid

Depósito Legal
M-27453-1981 / ISSN 0214-7823

De este número 28 Vol, 3 de Papeles del Psicólogo se han editado 49.800 ejemplares.
Los editores no se hacen responsables de las opiniones vertidas en los artículos publicados.

Papeles del Psicólogo está incluida en Psicodoc y en las bases de datos del ISOC (Psedisoc), del DOAJ (Directory of Open Access Journals), Elsevier Bibliographic Database: SCOPUS, Redalyc y en IBECS y también se puede consultar en la página WEB del Consejo General de Colegios Oficiales de Psicólogos:

http://www.cop.es

Papeles del Psicólogo, 2007. Vol. 28(3), pp. 145-146
http://www.cop.es/papeles

Introduction

The prediction of violence

The growing concern with social problems generated by violence in any of its forms is a constant that has affected well-being and health for more than last two decades (OMS, 2002). Political, judicial and social health problems, juvenile violence, family and partner violence and especially the more extreme forms of criminal violence, such as sexual aggressions or child abuse, have generated an urgent professional demand for finding efficient solutions to these problems. Violence, along with its causes and consequences, has become a field where professionals such as jurists, criminologists, health workers, behaviour experts and social workers exercise in close collaboration. Historically many of these professionals had already focused on these problems in the framework of criminology (Garrido, Stangeland & Redondo, 2006). For these professionals none of what today is "new" really is new, as they have been working on it for more than 100 years. We are referring to analysing the causes of violent offence (homicides, sexual aggressions, etc) and their forms of incapacitation, treatment and prevention. Along the same line, the psychology of delinquency, which is an important part of this historical tradition, has been a first order professional referent in numerous countries as well as in ours (Redondo & Andres Pueyo, 2007). This field of the application of psychology has had great professional vitality although without an equivalent reflex in the academic world which has not, or only exceptionally, gathered the importance of the theoretical and professional developments of this tradition in the formation of future psychologists. In this monograph we will briefly review the state of the Psychology of Criminal Conduct in the framework of research studies on violence and in particular the new technical contributions which are specifically useful for predicting violence.

Professional interventions by psychologists to fight against the causes and consequences of violence are the spearhead of social initiatives regarding this issue. The urgency of the same has often resulted in the fact that conceptual and technological advances have not been available for these professionals but rather they had to be produced at the same time as the interventions. For this reason, the efficacy of these has depended more on the good judgement and skill of the professionals than on the contrasted soundness and conceptual foundation of these interventions. Hence, the knowledge generated in Psychology to combat violence has been simultaneous to the exercise of these professional skills and competencies. Violence is a very common social phenomenon but many critical aspects for its prevention and elimination are still unknown. We know that violence is very reiterative and that, in some of its forms, it reaches levels of extension and recidivism that could be classified as "pandemic", such as what happens with gender violence. Among the most useful strategies for the reduction of violence is prevention, prediction techniques are the first step in treating violence on an individual case level and in avoiding its continuity or chronicity.

The prediction of physical, sexual and partner abuse is the main focus of this monograph. Techniques developed in the last 15 years with this aim have improved the efficacy and clarity of the professional decisions made by the specialists who work in this field. Throughout the entire twentieth century the basis for the prediction of violence has been dangerousness (Andres Pueyo & Redondo, 2007). The identification of this individual attribute is made by judges who are advised and informed by forensic experts who, using clinical methods, (Gisbert-Calabuig, 1998) analyse the state of danger of the subject mainly from a psychopathological perspective. Advances in psychiatric epidemiology, in psychological assessment

and in criminology have proved the inadequacy of this technique and have proposed new methods of violence prediction based on the assessment of risk factors which anticipate violent behaviour (Hart, 2001). These new methods have specialized in the assessment of specific types of violence and have emerged from the collaboration between researchers and professionals in order to solve, first of all, the practical exigency to make efficient predictions. The results are the availability of a series of guides and protocols for risk assessment for professionals which have multiple applications and that have been rapidly generalized to a number of countries. The second paper in this monograph deals with these changes and the new procedures in violence risk assessment.

Regarding the use of these new techniques the violence can be efficiently predicted if we focus on the specificity of its forms of presentation and we assess the specific risk factors for each of the forms of violence. The best developed techniques are aimed at the prediction of severe physical violence and threats in delinquent populations in confinement and in hospitalized and community mental patients, as these populations are at greater risk of violence recidivism. The HCR-20, which is a violence risk assessment guide appropriate to this aim, is presented in the third paper of this monograph. The two remaining articles focus on other types of violence which are especially frequent and severe. These are sexual violence and partner abuse. For the assessment of these two types of violence, there are two specific guides available which are identified by the acronyms SVR-20 and SARA respectively, and whose peculiarities and rudiments are described in the last two works which make up this monograph.

The risk assessment guides which are presented here are the result of a request made to a team of experts from various universities and centres for victim care in Canada by professionals from psychology, psychiatry, criminology, police, and social work. They were initially proposed for local use but they quickly spread to other countries and have generated a series of studies, and at the same time, new prediction tools which are used in most European countries (Great Britain, Sweden, Holland, Germany, etc..), America (U.S.A., Argentina, etc..) and are now available in Spain. The HCR-20, SVR-20 and SARA guides presented in this monograph, have been adapted to Spanish and to our judicial-criminological environment by the Group of Advanced Studies on Violence (GEAV) of University of Barcelona. This has been made possible thanks to the funding from different public organisms (mainly the Ministry of Education and Science, through projects: SEC2001-3821-C05-01/PSCE and SEJ2005-09170-C04-01/PSIC) and the facilities given by several psychiatric hospitals, judicial and police services, and penitentiary services, where the first studies regarding the predictive efficacy and adaptation of the guides to the prediction of violence took place. The authors of the works that follow would like to thank all those involved in this process for all the facilities conceded and we hope that the professionals will be able to use them and this way see their interventions noticeably improved.

REFERENCES

Andres Pueyo, A. & Redondo, S. (2007). Predicción de la violencia: Entre la peligrosidad y la valoración del riesgo de violencia (Violence and dangerousness risk assessment). *Papeles del Psicologo*, *28*, (in this same edition)

Garrido, V., Stangeland, P. & Redondo, S. (2006). *Principios de Criminologia* (Criminology principles) (3 ed). Valencia: Tirant lo Blanch.

Gisbert-Calabuig, J. A. (1998). *Medicina Legal y Toxicología* (Legal Medicine and Toxicology). Barcelona: Masson.

OMS (2002). *Violence and Health*. Zurich: OMS

Hart, S. (2001). Assessing and managing violence risk. En K. Douglas et al. (Eds.), *HCR-20: violence risk management companion guide* (pp. 13-26). Vancouver: SFU Ed. 13-26.

Redondo, S. y Andres Pueyo, A.(2007). Psicologia de la delincuencia (Psychology of criminal conduct). *Papeles del Psicólogo*, *28*, (this edition).

Andrés Pueyo, A. y Redondo, S.
GEAV
Universidad de Barcelona

Papeles del Psicólogo, 2007. Vol. 28(3), pp. 147-156
http://www.cop.es/papeles

THE PSYCHOLOGY OF CRIMINAL CONDUCT

Santiago Redondo Illescas y Antonio Andrés Pueyo
Universidad de Barcelona

Throughout the last decades the so-called Psychology of criminal conduct, which agglutinates scientific knowledge surrounding criminal phenomena, has been taking shape. We can find among the principal fields of interests an explanation for antisocial behaviour where learning theories, analyses of individual characteristics, strain-agression hypotheses, studies on social vinculation and crime, and the analyses of criminal careers are relevant. This last sector, also denominated 'developmental criminology', investigates the relationship between the beginning and maintenance of criminal activity and diverse risk predictors (singular and social, static and dynamic). Their results have had great relevance in the creation of crime prevention and treatment programs. Psychological treatments of offenders are aimed at the modification of those risk factors, known as 'criminogenic needs', which are considered to be directly related to their criminal activity. In particular, treatment programs attempt to provide criminals (whether juveniles, abusers, sexual aggressors, etc.) with new repertoires of prosocial behaviour, develop their thinking, regulate their choleric emotions, and prevent relapses or recidivisms in crime. Lastly, nowadays the Psychology of criminal conduct places special emphasis on the prediction and management of the risk for violent and antisocial behaviour, a field which will be addressed in a subsequent paper of this same monograph.
***Keywords**: Delinquency, Crime, Psychological Treatments, Prediction and Prevention of Violence*

A lo largo de las últimas décadas se ha ido conformado la denominada Psicología de la delincuencia, que aglutina conocimientos científicos en torno a los fenómenos delictivos. Entre sus principales ámbitos de interés se encuentran la explicación del comportamiento antisocial, en donde son relevantes las teorías del aprendizaje, los análisis de las características y rasgos individuales, las hipótesis tensión-agresión, los estudios sobre vinculación social y delito, y los análisis sobre carreras delictivas. Este último sector, también denominado 'criminología del desarrollo', investiga la relación que guardan con el inicio y mantenimiento de la actividad criminal diversos factores o predictores de riesgo (individuales y sociales, estáticos y dinámicos). Sus resultados han tenido gran relevancia para la creación de programas de prevención y tratamiento de la delincuencia. Los tratamientos psicológicos de los delincuentes se orientan a modificar aquellos factores de riesgo, denominados de 'necesidad criminogénica', que se consideran directamente relacionados con su actividad delictiva. En concreto se dirigen a dotar a los delincuentes (ya sean jóvenes, maltratadores, agresores sexuales, etc.) con nuevos repertorios de conducta prosocial, desarrollar su pensamiento, regular sus emociones iracundas, y prevenir las recaídas o reincidencias en el delito. Por último, en la actualidad la Psicología de la delincuencia pone un énfasis especial en la predicción y gestión del riesgo de comportamientos violentos y antisociales, campo al que se dedicará un artículo posterior de este mismo monográfico.
***Palabras Clave:** Delincuencia, Crimen, Tratamientos psicológicos, Prevención y Predicción de la violencia*

Crime is one of the social problems for which it is usually recognized that there is a greater need and possible utility of psychology. The antisocial behaviour of juveniles, violence against women, sexual aggressions, the consumption of alcohol and other drugs linked to many crimes, social exclusion and frustration as a base for aggression, or terrorism, all cause great distress in society and urge a more complete understanding that will lead to its prevention. Although all these phenomena have a multifactorial origin, some of their psychological dimensions are key, as it is a human subject who performs the antisocial behaviour. In criminal conduct, interactions, thoughts and choices, emotions, rewards, personality traits and profiles, learning and socializations, beliefs and attitudes, attributions, expectancies, etc. are involved.

Throughout the second half of the twentieth century and up to the present, an authentic *Psychology of delinquency and crime* has taken shape. Based on psychology's general knowledge and methods, research studies are carried out and specific knowledge is generated in service of a better understanding of criminal phenomena. Its applications are proving to be relevant and promising for both explaining and predicting criminal conduct (Bartol & Bartol, 2005; Blackburn, 1994; Hanson & Bussière, 1998; Quinsey, Harris, Rice & Cormier, 1998) as well as for designing and applying prevention and treatment

Correspondence: Santiago Redondo Illescas. *Facultad de Psicología. Universidad de Barcelona. España.*
E_Mail: sredondo@ub.edu

programs (Andrés-Pueyo & Redondo, 2004; Andrews & Bonta, 2006; Dowden & Andrews, 2001; Garrido, 2005; Redondo, 2007). Thus, psychological knowledge about delinquency and crime has been gathered especially regarding the following four major fields: 1) the explanation of crime, 2) studies regarding criminal careers, 3) prevention and treatment, and 4) the prediction of the risk of antisocial conduct. Next, we briefly address each of these thematic sectors.

EXPLANATION OF CRIMINAL BEHAVIOUR

The psychological explanations of crime which have received empirical support from research are essentially specified in five major propositions, which at present are considered to be complementary. These propositions are the following:

1. **Criminal behaviour is learned**
   The theory of *social learning* is considered today to be the most complete explanation for delinquent behaviour. The most well-known model in psychology is Bandura's (1987), which enhances the role of *imitation* and *expectancies* of behaviour, and distinguishes between the moments of *adquisition* of a behaviour and its later *execution and maintenance*. However, the dominant model in the explanation of crime is the version of social learning formulated by Akers (2006; Akers y Sellers, 2004), which considers that in the learning process of delinquent behaviour, four interrelated mechanisms are involved: 1) *differential association* with people who show delinquent habits and attitudes, 2) individual's adquisition of *definitions* favorable to crime, 3) *differential reinforcement* of criminal behaviour, and 4) *imitation* of pro-delinquent models.
2. **There are individual traits and characteristics that predispose to crime**
   The biopsychological research on individual differences and crime has highlighted the association of antisocial conduct with factors such as craneal injuries, low activity of the frontal lobe, low activation of the Autonomous Nervous System, reduced psychogalvanic response, low intelligence, Attention Deficit Disorder with Hyperactivity, high impulsiveness, tendency towards sensation seeking and risk taking behaviour, low empathy, high extraversion and an external locus of control. A still current psychological perspective regarding individual differences and crime is Eysenck's theory of personality (Eysenck & Gudjonsson, 1989), which includes the interaction between biological and environmental elements. In short, Eysenck considers that there are three temperamental dimensions interacting (Garrido, Stangeland & Redondo, 2006; Milan, 2001): 1) the *extraversion* continuum, which would be the result of a reduced activation of the reticular system and which would show itself psychologically in the traits "sensation seeking", "impulsivity" and " irritability", 2) the *neuroticism* dimension, sustained in the emtional brain and which is shown by "low negative affectivity" when dealing with states of stress, anxiety, depression or hostility, and 3) the *pychoticism* dimension, which is considered a result of dopamine and serotonin neurochemical processes, and which manifests itself in personal characteristics such as the greater or lower "social insensitivity", "cruelty" towards others and "agressiveness". The unique combination in each individual of personal characteristics in these dimensions and of environmental experiences would condition the diverse degrees of individual adaptation and, also, of possible antisocial behaviour, due to a strong deficiency in the socialization processes. According to Eysenck, human beings would learn "emotional concienceness" which would inhibit them from putting antisocial behaviour into practice. This process would take place by means of classical conditioning administered by parents and caregivers, from the association of aversive stimuli with socially inappropriate behaviour. However, individuals with *high extraversion*, *low neuroticism* and *high pychoticism* would have greater difficulties in the efficient acquirement of this "moral concience", as an inhibitor of antisocial conduct (Milan, 2001).
3. **Criminal offenses constitute reactions to personal experiences of stress and tension**
   Multiple research studies have highlighted the link between life experiences of strain and the tendency towards committing certain crimes, especially violent offenses (Andrews & Bonta, 2006; Tittle, 2006). Many homicides, intimate partner homicide, injuries, sexual aggressions and robbery, are perpetrated by individuals who experience strong feelings of rage, revenge, sexual appetite, thirst for wealth and property, or scorn for other people. With regards to this, a classic perspective in psychology is the hypothesis linking the experience of frustration with aggression.

Along the same line, a more modern criminological formulation is the General strain theory which points out the following explicative sequence for the relationship between stress and crime (Agnew, 2006; Garrido, Stangeland & Redondo, 2006):

a) Diverse *sources of strain* which can affect the individual stand out; among these the failure to achieve positively valued goals, being deprived of expected or desired gratifications, and being subjected to unavoidable aversive situations.
b) As a result of previous strains, negative emotions such as anger would be generated in the person which energizes his/her conduct towards correcting the situation.
c) A possible corrective action against an experienced source of strain is *criminal conduct.*
d) The supression of the source *aliviates the strain* and this way the behavioral mechanism used for solving the stress is consolidated.

4. **Involvement in criminal activities is the result of the rupture of social links**

The verification that the fewer the emotional links with socially integrated people are (as is the case in many situations of marginality) the greater the subject's implication in criminal activities is, has moved researchers to theorize about this in so called social control theories. The best known theory is the *Social Bonding Theory* by Hirschi (1969), who postulated that there is a series of main contexts in which youths bond with society: *family*, *school*, *peers* and *conventional patterns of action*, such as recreational or sports activities. Internalization in these contexts is produced through four complementary mechanisms: *attachment* or emotional ties of admiration and identification with other people, *commitment* or degree of assumption of social objectives, *participation* or range of the individual´s involvement in positive social activities (at school, family, work…), and *beliefs* or group of convictions favourable to established values and contrary to crime. In this perspective, the ethiology of antisocial conduct resides precisely in the rupture of the previously mentioned mechanisms of bonding in one or more of the aforesaid social contexts.

5. **The beginning and maintainance of a criminal career are related to the individual's development, especially in childhood and adolescence**

Lastly, an important current line of psychological analysis of delinquency is specified in the so-called *developmental criminology* which focuses on the study of the evolution of delinquent careers over time. Hereafter, we will refer to it in more detail due to the novelty and relevance of this approach at present.

STUDIES ABOUT DELINQUENT CAREERS AND DEVELOPMENTAL CRIMINOLOGY

Research regarding *delinquent careers*, also known as *developmental criminology,* understands delinqueny in connection with the diverse developmental stages that individuals go through, especially during childhood, adolescence and youth (Farrington, 1992; Loeber, Farrington & Waschbusch, 1998). It is believed that many young people engage in antisocial activities on a temporary basis during adolescence, but soon abandon them in a "natural" way. However, the priority for psychological analysis are the "persistent" delinquents, who make up a small percentage of juveniles who have had a very early beginning in deviant behavior and who will commit many serious crimes during long periods of their lifetimes (Howell, 2003; Moffitt, 1993). In studies regarding delinquent careers an analysis is made of the sequence of offenses perpetrated by an individual and the "factors" that are linked to the *beginning, maintenance and ending* of the deviant activity. Hence, the main focus of attention are the "risk factors" of delinquency. A differentiation between the static factors (such as a subject´s delinquent precocity, his/her impulsiveness or psychopathy) which contribute to the real risk but which cannot generally be modified and the dynamic or substantially modifiable factors (such as her/his cognitions, having delinquent friends, or drug comsumption) is made.

Farrington (1996) formulated a psychological theory which integrates knowledge about delinquent careers, and distinguishes in the first place between the 'antisocial tendency' of a subject and the 'decision' to commit a crime. The 'antisocial tendency' would depend on three types of factors: 1) *energizing* processes, among these we find the levels of desire for material goods, excitement and social prestige (more intense in marginal youths due to their greater hardships), frustration and stress, and possible alcohol consumption; 2) the processes that introduce an *antisocial directionality* to behaviour, especially when a young person due to his/her lack of prosocial abilities tends to opt for illicit methods of achieving gratification, and 3) the possession or not of

adequate *inhibitions* (beliefs, attitudes, empathy,etc.) which keeps him/her away from criminal conduct. These inhibitions are especially a result of an appropriate parental rearing process, which has not been gravely disrupted by risk factors such as high impulsiveness, low intelligence or contact with criminal models.

The 'decision' to commit a crime would take place in the interaction of the individual with a concrete situation. When the aforementioned antisocial tendencies are present, the crime would be more probable in function of the *opportunities* with which he/she is presented and the favourable valoration of the *anticipated costs and benefits* of the crime (material, legal punishment, etc.).

In a longitudinal plane Farrington's theory distinguishes three temporal moments in delinquent careers. The *beginning* of criminal behaviour would mainly depend on the increased influence that frindships acquire on the young person,especially during adolescence. The greater influence of friends, combined with the gradual maturing of the young person, increases his/her motivation towards greater excitement, the obtention of wealth and other material goods, and increased group status. It also increases the probability of imitating the illegal methods of friends and, in their company, opportunities for committing a crime are multiplied, at the same time as the expected usefulness of the illicit actions increases. *Persistence* in criminal behaviour depends essentially on the stability shown by antisocial tendencies, as a result of an intensive and lengthy learning process. Finally, the *abandonment* of a delinquent career will happen in accordance with the degree to which the young person improves his/her ability to satisfy objectives and desires through legal means and to increase his/her affective links to non-antisocial partners (which usually occurs at the end of adolescence or in the first stages of adulthood).

In the framework of *developmental criminology,* one of the most important theories proposed at present, which incorporates knowledge drawn from research and previous psychological theories, is the synthesis formulated by Canadian researchers Andrews & Bonta (2006), in their *Risk-Needs-Responsiveness* model. Said model focusses on psychological applications in the prevention and treatment of delinquency and establishes three great principles: 1) the *risk principle*, which asserts that those individuals with a high risk in *static factors* (non-modifiable historical and personal) require more intensive interventions; 2) the *needs principle,* which asserts that *dynamic risk factors* directly connected with delinquent activity (such as delinquent habits, cognitions and attitudes) should be the authentic objectives of intervention programs, and 3) the *individualization principle,* which warns about the necessity of adequately adjusting interventions to the subject´s personal characteristics and situations (motivation, responsiveness to techniques, etc.). Following is a more detailed presentation of the progress of psychology in the fields of crime prevention and treatment.

PREVENTION AND TREATMENT

Crime prevention allows varied possibilities in function of both the successive temporal moments in the development of delinquent carreers (primary, secondary and tertiary prevention) and also the different actors and contexts that intervene in the crime (prevention with respect to the aggressors, victims, social community and physical environment) (Garrido *et al.*, 2006). In all these prevention modalities, the collaboration of diverse disciplines such as criminology, psychology, victimology, law, sociology, social work and urban design is required, only to mention some that seem more evident. We will not refer here to all the possibilities or variants in prevention but we will rest our attention on those in which psychology has shown greater utility until the present, which is mainly specified in the psychological treatment of both juvenile and adult offenders.

Psychological treatments are founded on the aforementioned explanations and other knowledge about delinquency and crime, such as the social learning theory and delinquent career analyses. In essence, treatments consist of psychoeducational interventions directed at youth at risk of deviant behavior or convicted offenders, with the objective of reducing dynamic risk factors linked to their criminal activity. They constitute one of the currently available technical means for the reduction of the risk of offenders engaging in antisocial behavior. Nevertheless, this does not mean that these treatments are the 'solution' to delinquency and crime, as it is a complex and multicausal phenomenum, and for this reason it requires very diverse interventions.

Canada is, on an International level, the country with the greatest development in terms of treatment and rehabilitation programs for offenders. Their offer is very wide and it includes national programs for the prevention of family violence, the so called *Reasoning and Rehabilitation Program (R&R)* (the first wide cognitive program applied in this field), a program on the

management of emotions and anger, a program of training in free time activities, childrearing abilities, of community integration, of sexual offenders, prevention of toxic substance abuse, prevention of violence, prevention of isolation in closed penitenciary regimes, and a group of specific programs for female offenders (Brown, 2005). In Europe, the country with the greatest technical development in the treatment of offenders is Great Britain. In resemblance to Canada, it offers a wide variety of treatment programs which includes those directed towards training in thinking abilities, anger management, several programs for sexual agressors, motivation programs and everyday-life skills for juvenile offenders (McGuire, 2001). Other European countries with good development in the treatment of offenders are the Nordic Countries, and some in Central Europe such as the Netherlands and Germany.

Spain offers a reasonable variety of treatment programs for offenders (especially in prison), including treatment for juvenile inmates, drug-addiction offenders (offenders with problems of drug addiction), sexual aggressors, abusers, foreign convicts, handicapped convicts, high risk offenders in closed regimes, and suicide prevention (Redondo, Pozuelo y Ruiz, en prensa). The great problem that the implementation of treatment programs in Spanish prisons has to deal with is the large number of inmates, which continues to grow day after day, not due to a real increase in the number of crimes but rather to a systematic and spectacular toughening of the penal system (Redondo, 2007).

The main treatment objectives for offenders are their *criminogenic needs* or the risk factors directly associated to their criminal conduct. Andrews and Bonta (2006) have referred to what they call the "big four" risk factors: 1) antisocial cognitions, 2) pro-crime networks and links, 3) personal history of antisocial behaviour, and 4) traits and factors of antisocial personality. In accordance with the latter, of all the psychological models with therapeutic implications, the cognitive-behavioral model is the one that has produced the greatest number of programs for offenders. From this perspective, criminal conduct is considered to partially be the result of deficits in abilities, cognitions and emotions. Thus, the aim of treatment is to train these subjects in all these competencies which are essential for social life. Specifically this model has focussed on training in the following group of abilities (for greater scope see Redondo, 2007):

1. *Development of new abilities*. Many delinquents and offenders have the need to learn new abilities and habits of non-violent communication, of family and work responsibilities, of motivation for personal achievement, etc. Psychology disposes of a vast technology, to a great extent derived from *operant conditioning,* for teaching new behaviours and for the maintenance of the social competencies that may already be part of the behavioral repertoire of an individual. *Positive reinforcement* and *shaping* stand out among the techniques used for developing new behaviours, based on dividing a complex social behaviour into small steps and reinforcing the individual for his/her successive approximations to the desired behaviour. The best techniques for reducing inappropriate behaviour have proven to be *extintion* of conduct and teaching subjects new *alternative behaviours* which will allow them to obtain those rewards previously achieved through antisocial conduct. The long-term maintenance of prosocial conduct has been promoted through *behavioural contracts,* in which an agreement is reached with the subject regarding therapeutic objectives and the consequences to be obtained for his/her efforts and achievements.

   In institutions, such as prisons and centres for juvenile delinquents, so called *environmental contingency programs* have been applied; which organize the entirety of a closed institution based on principles of conduct reinforcement.

   Another important strategy for developing prosocial behaviours in offenders is the *modelling* of such behaviours by other subjects, which facilitates the imitation and the adquisition of the behaviour by the "learners". Modelling is also the foundation of the technique *social skills training,* which is one of the techniques most utilized with delinquents and offenders (Redondo, 2007).
2. *Thought development*. The same as occurred with psychological therapy in general, the relevance of intervening on thought and cognition in the treatment of offenders was discovered in the seventies. Within the framework of *criminal psychology*, the decisive scientific work for this was that developed by Ross and collegues in Canada. They reviewed a large number of treatment programs which had been implemented in the previous years with offenders and came to the conclusion that the most effective pro-

grams were those which included elements of thought change (Ross & Fabiano, 1985). As a result of this analysis they devised a multifaceted program, *Reasoning and Rehabilitation (R&R)*, which adapted and incorporated different techniques which other authors had proven to be highly efficient. This program, in its different formats, has been widely used with delinquents in several countries including Spain, with good results (Tong & Farrinton, 2006).

Many offenders are not very competent in solving their interpersonal problems, for this reason an especially applied treatment strategy has been that of "cognitive resolution of interpersonal problems". It includes training in the recognition and definition of a problem, the identification of one´s own feelings associated to it, the separation of facts and opinions, the gathering of information regarding the problem and the analysis of all possible solutions, consideration of the consequences of the different solutions and, finally, the adoption of the best solution and its implementation.

Another of the great advances in the cognitive treatment of offenders are the techniques aimed at their moral development. The origin of these techniques are the works on moral development by Piaget and, especially, by Kohlberg, who distinguished a series of levels and 'stages' of moral development, from the most immature (in which decisions regarding behaviour are based on avoiding punishment and on immediate rewards) to the most advanced (imbued with altruistic and self-induced moral considerations). Techniques of moral development show the subjects, through group discussion activities, how to take the feelings and points of view of other people into consideration (Palmer, 2003).

3. *Emotional regulation and anger control.* According to what has already been discussed, anger can play an outstanding role in the genesis of violent and criminal bahaviour. Techniques of emotional regulation are based on the assumption that many offenders have difficulties in managing conflictive everyday situations which may lead them to emotional discontrol and to the aggression of other people both verbally and physically. In this process, there is usually a sequence present which generally includes three elements: lack of skills in managing the situation, inadequate interpretation of social interactions (e.g., attributing bad intention) and emotional exasperation. Consequently, treatment is directed at training the subjects in all the previous areas, which includes self-regulation of anger and contruction of a hierarchy of situations in which anger is precipitated, cognitive restructuring, relaxation, training in confrontation and communication in therapy, and practice in daily life (Novaco, Ramm & Black, 2001).
4. *Relapse Prevention.* Experience indicates that many of the changes generated by the treatment are not always definite but that often 'unexpected' returns to delinquent activity or relapses in crime are produced. Thus, one of the most important present day objectives in the treatment of offenders is to bring the generalization of therapeutic achievements to the subject´s habitual contexts, and to facilitate the maintenance of said improvements throughout time. With respect to the aforementioned intentions, two important types of psychological techniques have been developed and applied. The more traditional techniques of "generalization and maintenance" have as an objective the proactive transference of the new skills acquired by offenders during the treatment program. For this purpose, strategies such as the following are used: intermittent reinforcement programs, extensive training in skills by a variety of people and in multiple locations, inclusion of people who are close to the subject (who will later be in their natural environment), the use of consequences and rewards which are normal in the context of the individual (more than artificial ones), stimuli control and self-control. A more recent and specific technique is "relapse prevention" which was first designed for the field of drug addiction and later was also transferred to the treatment of offenders (Laws, 2001; Marlatt & Gordon, 1985). Its general structure consists of training the subject in: a) the detection of risk situations for relapse in criminal behaviour, b) the prevention of apparently irrelevant decisions, which although seeming to be harmless could place the person at greater risk and c) the adoption of adaptive coping responses.

If we focus on the typology of criminal behaviour, psychological treatments have been especially directed at the following categories of offenders:

1. *Juvenile delinquents.* Family programs are one of the best ways of preventing crime. Today, one of the most empirically tested juvenile treatments is the so-called *multisystemic therapy* (MST) by Henggeler and

collegues (Edwards, Schoenwald, Henggeler & Strother, 2001). It is based on the consideration that childhood development is produced under the combined and reciprocal influence of different environmental layers which include family, school, neighbourhood institutions, etc. In all these systems, there are both *risk* factors for criminal behaviour and *protective* factors. Based on this, a series of basic principles are established: evaluate the "fit" between problems identified in the different systems; base therapeutic change on positive elements; direct therapy towards promoting responsible behaviour and focussing it on the present and on the action; interventions should be in accordance with the youth´s needs; and finally, the generalization and maintenance of achievements should be planned. Multisystemic therapy uses as specific interventions all those techniques which have shown greater efficacy with offenders, such as reinforcement, modelling, cognitive re-structuring and emotional control. It is applied in the places and times preferred by the subject, which often includes family residences, neighbourhood centres, meal times or weekends.

Another multifaceted program highly efficient with young offenders is *Aggression Replacement Treatment* (ART program) which has three main ingredients (Goldstein & Glick, 2001): a) training in 50 skills considered to be of great relevance in social interaction, b) training in anger control (identification of triggers and precursors, use of strategies for reducing and re-directing thought, self-evaluation and self-reinforcement), and c) moral development (based on group work about moral dilemmas). At present, there is a ten-week abbreviated version of this program.

2. *Sexual Aggressors*. They represent, due to the complexity and persistance of antisocial sexual behaviour, one of the most important challenges we face in the psychological treatment of offenders. The most common therapeutic ingredients in these programs are work on cognitive distortions, development of empathy with the victims, improvement in the capacity for personal relationships, decrease in attitudes and sexual preferences towards aggression or children, and relapse prevention (Marshall & Redondo, 2002). In a future work, we will thoroughly discuss all aspects related to the psychological analysis and treatment of this type of offenders.
3. *Abusers*.Today, partner abuse is considered to be a complex phenomenon in which diverse risk factors intervene including both personal characteristics and those regarding culture or interaction. Internationally applied treatment programs include the following therapeutic techniques (Dobash & Dobash, 2001): self-regulation of anger, systematic desensibilization and relaxation, modelling of non-violent behaviours, reinforcement of non-violent responses, communication training, cognitive re-structuring of sexist beliefs which justify violence, and relapse prevention. In Spain there are treatment programs for abusers both in prison and in the community. The program applied in prisons, originally designed by Echeburúa and his team, includes the following ingredients (Echeburúa, Fernández-Montalvo & Amor, 2006): acceptance of one´s own responsibility, empathy and expression of emotions, erroneous beliefs, emotion control, development of skills and relapse prevention. More recently, in the Autonomous Community of Galicia, the so-called "Galician program of psychosocial re-education for gender abusers" has been implemented, which is applied under judicial supervision in the community. Said program, which is carried out in 52 sessions throughout the year, incorporates techniques in the self-control of emotional activation and rage, cognitive re-structuring, problem resolution, modelling and training in communication skills (Arce & Fariña, 2007).

In relation to the efficacy of psychological treatments for offenders, between 1985 and the present day around 50 meta-analytical reviews have been performed. The essential message derived from the meta-analyses is that psychological treatments have a partial but significant effect on the reduction of recidivism rates (Hollin, 2006; McGuire, 2004): they achieve an average reduction in reoffense rates of about 10 points for recidivism base rates of 50% (Cooke & Philip, 2001; Cullen & Gendreau, 2006; Lösel, 1996; McGuire, 2004; Redondo & Sánchez-Meca, in preparationen), and the best treatments are able to obtain reductions greater than 15 points (some programs, the best of all, between 15 and 25 points). In other words, treatment can reduce expected recidivism in proportions of about 1/3 (and, depending on the quality of the interventions, between 1/5 and ½).

PREDICTION OF THE RISK FOR ANTISOCIAL CONDUCT

At present, parallel to the treatment of offenders, the assessment of the risk for violence and crime that may be

present either before or after treatment, is gaining strength. For this purpose, several instruments for risk prediction have been developed and are being applied, which we will refer to in subsequent papers.

CONCLUSION

In the first work of this monograph on violence, the advances and possibilities of psychology in the analysis of delinquency and crime were presented, which has given rise to the development of an authentic "Psychology of criminal conduct" on an international level. Specifically, it has been elucidated how psychology has good theories and explanations for crime, with precise analysis of the initiation, maintenance and cessation of offender careers, and especially, solid psychological treatments with notable results in the reduction of crime recidivism rates. In addition, the possibilities of psychology with respect to the assessment of the risk of violence has been advanced for its presentation in the next article. As a result of the aforementioned, a considerable number of psychologists work in developed countries in the fields of analysis, prediction, prevention and treatment of crime.

In contrast to the previous exposition and to finalize, we would like to draw the reader´s attention to the imbalance that exists between all these psychological developments in a field of such social relevance as is the case of violence and delinquency and, in contrast, the scarce presence that such knowledge has in the academic formation of psychologists today. Psychology study plans are generally disconnected from knowledge and professional developments in the Psychology of criminal conduct, something that, for the sake of the scientific and applied projection of psychology, should be remedied in the future.

Acknowledgements: This work has been carried out within the framework of the development of research projects SEC2001-3821-C05-01/PSCE and SEJ2005-09170-C04-01/PSIC of the Ministry of Education and Science, Government of Spain

REFERENCES

Agnew, R. (2006). *Pressured into crime: an overview of general strain theory*. Los Ángeles: Roxbury Publishing Company.

Akers, R.L. (2006). Aplicaciones de los principios del aprendizaje social. Algunos programas de prevención y tratamiento de la delincuencia. (Applications of the principles of social learning. Some programs for the prevention and treatment of delinquency). In J.L. Guzmán Dálbora & A. Serrano Maíllo, *Derecho penal y criminología como fundamento de la política criminal: estudios en homenaje al profesor Alfonso Serrano Gómez* (*Penal law and criminology as a fundamental of criminal policies: studies in homage to professor Alfonso Serrano Gómez)* (pp. 1117-1138). Madrid: Dykinson.

Akers, R.L. & Sellers, C.S. (2004). *Criminological theories: Introduction, evaluation and application*. Los Angeles (EEUU): Roxbury Publishing Company.

Andrés-Pueyo, A. & Redondo, S. (2004). *Predicción de la conducta violenta: estado de la cuestión*. Comunicación presentada en la Mesa 4ª: Evaluación y predicción de la violencia, en el Congreso de Criminología: Violencia y Sociedad. Salamanca, 1-3 de abril. *(Prediction of violent behaviour: state of the question*. Communication presented at Table 4: Assessment and prediction of violence, at the Criminology Congress: Violence and Society. Salamanca, 1-3 of April).

Andrews, D. & Bonta, J. (2006). *The Psychology of Criminal Conduct* (4ª ed.). Cincinnati (EEUU): Anderson Publishing Co.

Arce, R. & Fariña, F. (2007). Intervención psicosocial con maltratadores de género. En J.M. Sabucedo y J. Sanmartín, *Los escenarios de la violencia* (Psychosocial intervention with gender abusers. In J.M. Sabucedo y J. Sanmartín, *Scenes of Violence)* (pp. 29-43). Barcelona: Ariel.

Bandura, A. (1987). *Teoría del Aprendizaje Social* (*Theory of Social Learning)*. Madrid: Espasa-Calpe.

Bartol, C.R. & Bartol, A.M. (2005). *Criminal Behavior: A Psychological Approach*. Upper Saddle River, New Jersey: Prentice Hall.

Blackburn, R. (1994). *The psychology of criminal conduct: Theory, research and practice*. Chichester, Reino Unido: Wiley.

Brown, S. (2005). *Treating sex offenders*. Cullompton, Devon (Reino Unido): Willan Publishing.

Cooke, D.J. & Philip, L. (2001). To treat or not to treat? An empircal perspective. En C.R. Hollin (Ed.), *Offender assessment and treatment* (pp. 17-34). Chichester (Reino Unido): Wiley.

Cullen, F.T. & Gendreau, P. (2006). Evaluación de la rehabilitación correccional: política, práctica y perspectivas. En R. Barberet y J. Barquín, *Justicia penal siglo XXI: Una selección de Criminal Justice 2000 (*Assessment of correctional rehabilitation: policy,

practice and perspectives. In R. Barberet & J. Barquín, *Penal justice XXI century: A selection from Criminal Justice 2000* (pp. 275-348). Granada: Editorial Comares.

Dobash, R. & Dobash, R.E. (2001). Criminal justice programmes for men who assault their partners. En C.R. Hollin (Ed.), *Offender assessment and treatment* (pp. 379-389). Chichester (Reino Unido): Wiley.

Dowden, C. & Andrews, D.A. (2000). Effective correctional treatment and violent reoffending: A meta-analysis. *Canadian Journal of Criminology, October*, 449-467.

Echeburúa, E., Fernández-Montalvo, J. & Amor, P.J. (2006). Psychological treatment of men convicted of gender violence. *International Journal of Offender Therapy and Comparative Criminology, 50(1)*, 57-70.

Edwards, D.L., Schoenwald, S.K., Henggeler, S.W. & Strother, K.B. (2001). A multilevel perspective on the implementation of Multisystemic Therapy (MST): attempting dissemination with fidelity. En G.A. Bernfeld, D.P. Farrington, y A.W. Leschied, *Offender rehabilitation in practice: Implementing and evaluating effective programs* (pp. 97-120). Chichester: Wiley.

Eysenck, H.J. & Gudjonsson, G.H. (1989). *The causes and cures of criminality*. Nueva York: Plenum Press.

Farrington, D.P. (1992). Criminal career research in the United Kingdom. *British Journal of Criminology, 32*, 521-536.

Farrington, D.P. (1996). The explanation and prevention of youthful offending. In P. Cordelia & L. Siegel (Eds.): *Readings in contemporary criminological theory*. Boston: Northeastern University Press.

Garrido, V. (2005). *Qué es la psicología criminológica (What is criminological psychology)*. Madrid: Editorial Biblioteca Nueva.

Garrido, V., Stangeland, P. & Redondo, S. (2006). *Principios de Criminología* (*Criminology Principles)*(3rd ed.). Valencia: Tirant lo Blanch.

Goldstein, A.P. & Glick, B. (2001). Aggression Replacement Training: application and evaluation management. En G.A. Bernfeld, D.P. Farrington, y A.W. Leschied, *Offender rehabilitation in practice: Implementing and evaluating effective programs* (pp. 121-148). Chichester: Wiley.

Hanson, R.K. & Bussière, M.T. (1998). Predicting relapse: A meta-analysis of sexual offender recidivism studies. Journal of Consulting and Clinical Psychology, 66, 348-362.

Hirschi, T. (1969). *Causes of delinquency*. Berkeley (EEUU): University of California Press.

Hollin, C.R. (2006). Offending behaviour programmes and contention: evidence-based practice, manuals, and programme evaluation. En C.R. Hollin y E.J. Palmer (Ed.), *Offending behaviour programmes* (pp. 33-67). Chichester (Reino Unido): Wiley.

Howell, J.C. (2003). *Preventing and reducing juvenile delinquency*. Thousand Oaks (EEUU): Sage Publications.

Laws, D.R. (2001). Relapse prevention: reconceptualization and revision. En C.R. Hollin (Ed.), *Offender assessment and treatment* (pp. 297-307). Chichester (Reino Unido): Wiley.

Loeber, R., Farrington, D.P. & Waschbusch, D.A. (1998). Serious and violent juvenile offenders. En R. Loeber y D.P. Farrington (Eds.), *Serious and violent juvenile offenders* (pp. 313.345), Thousand Oaks, CA: Sage.

Lösel, F. (1996). What Recent Meta-Evaluations Tell us About the Effectiveness of Correctional Treatment. En G. Davies, S. Lloyd-Bostock, M. MacMurran y C. Wilson (Eds.), *Psychology, Law, and Criminal Justice: International Developments in Research and Practice*. Berlín: De Gruyter.

Marlatt, G.A. & Gordon, J.R. (1985). *Relapse prevention: Maintenance strategies in the treatment of addictive behaviors*. New York: Guilford Press.

Marshall, W.L. & Redondo, S. (2002). Control y tratamiento de la agresión sexual. En S. Redondo (Coord.), *Delincuencia sexual y sociedad* (Control and treatment of sexual aggression. In S. Redondo (Coord.), *Sexual delinquency and society)* (pp. 301-328). Barcelona: Ariel.

McGuire, J. (2001). Defining correctional programs. In L. Motiuk & R.C. Serin (Eds.), *Compendium 2000 on Effective Correctional Programming* (Cap. 1). Ottawa (Canadá): Correctional Service of Canada.

McGuire, J. (2004). Commentary: promising answers, and the next generation of questions. *Psychology, Crime & Law, 10(3)*, 335-345.

Milan, M.A. (2001). Behavioral approaches to correctional management and rehabilitation. In C.R. Hollin (Ed.), *Offender assessment and treatment* (pp. 139-154). Chichester (Reino Unido): Wiley.

Moffitt, T.E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100*, 674-701.

Novaco, R.W., Ramm, M. & Black, L. (2001). Anger

treatment with offenders. In C.R. Hollin (Ed.), *Offender assessment and treatment* (pp. 281-296). Chichester (Reino Unido): Wiley.

Palmer, E. (2003). *Offending behaviour: Moral reasoning, criminal conduct and the rehabilitation of offenders.* Cullompton, Devon (Reino Unido): Willan Publishing.

Quinsey, V.L., Harris, G.T., Rice, M.E. & Cormier, C.A. (1998). *Violent offenders. Appraising and managing risk*. Washington: American Psychological Association.

Redondo, S. (2007). *Manual para el tratamiento psicológico de los delincuentes. (Manual for the psychological treatment of delinquents).* Madrid: Pirámide.

Redondo, S., Pozuelo, F. & Ruiz, A. (en prensa). El tratamiento en prisiones: investigación internacional y situación en España. En A. Cerezo y E. García-España, *Manual de criminología penitenciaria* (Treatment in prisons: international research and situation in Spain. In A. Cerezo & E. García-España, *Manual of penitentiary criminology).*

Redondo, S. & Sánchez-Meca, J. (in preparation). The State of the Art of offender rehabilitation: an analysis of 20 years of meta-analysis.

Ross, R. & Fabiano, E. (1085). *Time to think. A cognitive model of delinquency prevention and offender rehabilitation.* Johnson City, Tennesse: Institute of Social Sciences and Arts.

Tittle, C. (2006). Desarrollos teóricos de la Criminología. En R. Barberet y J. Barquín (ed.), *Justicia penal siglo XXI* (Theoretic developments in Criminology. In R. Barberet & J. Barquín (ed.), *Penal justice XXI century).* (pp. 1-54). Granada: Editorial Comares.

Tong, L.S. & Farrington, D. (2006). How effective is the "Reasoning and Rehabilitation" programme in reducing reoffending? A meta-analysis of evaluations in four countries. *Psychology, Crime & Law, 12 (1),* 3-24.

Papeles del Psicólogo, 2007. Vol. 28(3), pp. 157-173
http://www.cop.es/papeles

DANGEROUSNESS AND VIOLENCE RISK ASSESSMENT

Antonio Andrés Pueyo y Santiago Redondo Illescas
Grupo de Estudios Avanzados en Violencia. Universidad de Barcelona

Violent behaviour is one of the most characteristic elements of serious crime. The attribution of "dangerousness" to those responsible for these violent acts has been used for many years as an explanatory and mostly predictive factor of the recidivism and severity of the acts committed by sexual aggressors, serial killers and domestic offenders.
The intense social concern about violent behaviour has forced Psychology to find solutions which have surpassed the traditional scope of Criminal Psychology as new offences have been defined such as gender violence and especially as new ways of treatment of the victims are being demanded. Nowadays, professional psychologists are also required to take part in prevention to avoid the reiteration of any given kind of violence. Violence prediction with high recidivism rates is amongst these new requirements. Dangerousness has been the most important attribute on which most violence predictions are based but dangerousness is a construct with a limited predictive capacity given that it is not the only factor that determines violent behaviour. In the last 15 years new ways of predicting violence based on violence risk assessment have emerged which have shown higher predictive effectiveness.
In this paper these new techniques of violence risk assessment are presented, along with their characteristics and applications. These new techniques significantly improve predictive power and help clarify the process that professionals use in their decisions about the future of violent behaviour, facilitating violence risk management strategies and prevention.
Keywords: *Dangerousness, Violence, Prediction, Risk assessment*

El comportamiento violento es uno de los elementos más característicos y alarmantes de la delincuencia grave. La atribución de peligrosidad a los responsables de estos delitos violentos ha servido durante muchos años como factor explicativo y sobre todo predictivo de la reincidencia y la gravedad de las actuaciones de estos delincuentes, entre los que destacan los agresores sexuales, los homicidas y los maltratadores familiares. La intensa preocupación social por el comportamiento violento ha demandado a la Psicología soluciones que han superado el ámbito tradicional de aplicación de la Psicología de la Delincuencia al definirse nuevos delitos como la violencia de género y especialmente por el surgimiento de las demandas atencionales que requieren las víctimas. Hoy los profesionales de la Psicología son requeridos para actuar también en la prevención, para evitar la ocurrencia y el mantenimiento de cualquier tipo de violencia. Entre estas nuevas demandas se encuentra la predicción futura de las conductas violentas que tienen una alta tasa de repetición. El atributo esencial sobre el que se ha fundamentado la predicción de la violencia ha sido la peligrosidad. La peligrosidad es un constructo con una capacidad predictiva limitada ya que no es el único determinante del comportamiento violento. En los últimos 15 años han surgido nuevas técnicas de predicción basadas en la valoración del riesgo de violencia que han demostrado tener una mayor eficacia predictiva. Presentaremos estas nuevas técnicas de predicción de la violencia, sus propiedades y sus aplicaciones. Dichas técnicas mejoran de forma significativa la eficacia predictiva, ayudan a clarificar las bases sobre las que los profesionales sustentan sus decisiones relacionadas con el futuro del comportamiento individual y facilitan la gestión y prevención de la violencia.
Palabras Clave: *Peligrosidad, Violencia, Predicción y valoración del riesgo*

Several recent criminal cases show how inmates on passes or parole, husbands, ex-husbands or boyfriends with domestic violence restraining orders, young people with precocious violence histories or patients with mental disorders released from psychiatric hospitals, commit severe violent acts. These events show the existent of risk for violence in certain individuals (Blackburn, 1999; Buchanan, 1999; Campbell, 1995; Hart, 1998). We are very habituated to considering dangerousness as the key attribute in the estimation of the probability of future violent behaviour, but the development of Criminal Psychology has shown that the predictive capacity of dangerousness is limited and its use is not very efficient for professionals who make prospective decisions in forensic, clinical or penitentiary settings (Webster et al., 1997, Andrews & Bonta, 2003, Scott & Resnick, 2006). In the last 15 years, new techniques for the prediction of violent behaviour have

Correspondencia: Antonio Andrés Pueyo. *Facultad de Psicología-Universidad de Barcelona. Paseig Vall Hebron 171. 08035 Barcelona. España. E_Mail: andrespueyo@ub.edu*

been developed based on three main elements: a) more extensive knowledge about the nature and the processes which generate violence, b) the substitution of the term "dangerousness" for "risk of violence", and c) the development of protocols and instruments for professional use in violence risk assessment (Andres Pueyo & Redondo, 2004). These aspects will be briefly analyzed in order to provide the reader with a new image of violence prediction.

Violence is an interpersonal and social phenomenon (Reiss, 1994) which seriously affects the well-being and health of individuals. At present it has become a first-order collective problem with severe consequences on the political, economic and social development of human groups (Krug et al., 2002). This situation has provoked a social reaction in a context of generalized rejection and intolerance with respect to the use of violence in human relations. In 2002, Gro Harlem Burtland, general director WHO, stated: "violence is present in the lives of numerous people in the world and it affects us all in some sense" (Krug,2002; pp.2).

The reaction of intolerance and rejection of violence is accompanied by a series of solutions for violence causes and consequences. These demands fall on all social agents, starting from the political-administrative structures of the State and other public administrations, social organizations, media, etc. Consequently, an urgent mobilization of the professionals who work in three specific fields of actuation has taken place: justice, health and social services. All these have a direct effect on the control and prevention of violence. Among these professionals, psychologists have very relevant responsibilities, in the first place attending victims of violence and also in the intervention with aggressors and the avoidance of future violent behaviour. In this context, the techniques for violence prediction are strategies for the prevention and management of violence risk.

VIOLENCE PREDICTION: THE CRITERIA QUESTION

Practices for the prediction of future violence have existed in every cultural tradition and were usually in the hands of "specialists" who did not lack social recognition. At the same time, different prediction techniques have been developed some of which are still being used. Among these, horoscopes, expert card and coffee-ground readings stand out. All these techniques, known as fortunetelling represent the home-made modality of prediction. In contrast to these techniques, others have been developed based on scientific knowledge about the processes which are determinant of the phenomena to be predicted, for example an earthquake or the possible trajectory of a tropical cyclone. This knowledge can range from the simple verification of associations between risk factors (predictors) and phenomena to be predicted (criteria), such as happens in the prediction and estimation of longevity in people or stock market fluctuations, to those causal models which, like astronomic ones, predict stellar incidents with surprising accuracy.

Among the numerous and varied demands that psychology professionals receive, we find those related with the prediction of future behaviour (Meehl, 1954; Borum, 1996, Mulvey & Lidz, 1998; Ozer & Benet, 2006). These demands are often explicit, as is the case of personnel selection, but other times they are implicit and are made in many fields of intervention such as the clinical, judicial-forensic or educational fields. In fact, the prediction of behaviour is present in almost all branches of applied psychology (Andrés Pueyo, 1997). Predicting future conduct is not methodologically different from predicting whether it will rain at the weekend, whether there will be an avalanche in winter, whether a patient who has suffered from a myocardial infarction will die as a consequence of the same, whether vote intention will change the day of the elections or if the Euribor or the Ibex will rise or fall next week. These questions are answered by specialists in meteorology, geology, cardiology, politics and economics. Similarly, psychologists foresee whether a student will finish his studies successfully, whether an aspiring policeman or a bank clerk will be honest and competent workers, or whether a patient will improve after treatment sessions. Prediction forms part of professional exercise; it is based on decisions made by professionals because a prediction is always a consequence of a decision or judgement. In this section we will consider everything which is specific to violence prediction. In order to do this, it is necessary to focus on the definition of violence, its properties and characteristics. Prediction experts insist that the first step for making objective, rigorous and efficient predictions is to rigorously define that which we want to predict. The possibility of making the prediction process a rigorous task and not a subproduct of professional intuition will

[1] A continuación, y a lo largo de todo el texto, utilizaremos el término "psicólogos" como genérico tanto de las psicólogas como de los psicólogos.

depend on the correct definition of the criterion to be predicted, in this case violence (Edens & Douglas, 2002).

Violence is a complex phenomenon very much discussed and speculated on but about which we have limited scientific knowledge and until most recently has not been the object of rigorous analysis and study. In fact, violence in general and, in particular some of its most severe forms - such as gender or sexual violence - have recently become a problem of interest for scientists and is receiving increased attention (see *Science*, July 28th, 2000).

One of the first difficulties in the study of violence is its conceptual delimitation. Unfortunately, it is frequent to find labelled as violence very distinct phenomena, for example, aggression, impulsiveness or delinquency. The concept of violence has a double connotation which defines it at the same time as an action or behaviour and as a disposition, capacity or psychological attribute. We need to distinguish between the "quality" of being violent, which a priori could be considered a synonym of "dangerousness", and the act or action of behaving violently. The determinants of an action and those of a disposition are different (Andres Pueyo, 1997). As with all behaviour, violent action is a result of the specific interaction between individual and situational factors. On the contrary, in the case of violence, as a quality or attribute of individuals, dispositional and historic-biographic determinants acquire a more important role.

In 2002, the WHO carried out an epidemiological study about the relationship between violence and health. In that study violence was defined as: *"…the deliberate use of physical force or power, whether effective or as a threat, against oneself, another person or a group or community, which causes or has a high probability of causing injuries, death, psychological harm, developmental disorders or privations"* (Krug et al., 2002). From this definition we deduce that violence is not simply a conduct, an emotional response, a psychopathic symptom, an irrefrenable instinct or impulse, nor a simple and autonomous or irreflexive response. Violence is a psychological strategy for the achievement of a certain purpose. This means that violence requires, on the part of the subject who executes it, the utilization of different resources and processes which will deliberately convert this strategy into a behaviour or series of behaviours directed at reaching an objective.

In any given violent event or act and in function of the type of violence in question, we can identify a specific conflict usually associated to that type of violence. The causal agent of the violent act is the individual but he/she acts in a context or situation which facilitates or stimulates its appearance. Eliciting, modulating and maintaining components can be identified, but we must also emphasize the key role of the person's decision to behave violently. This individual decision, more or less conditioned, is made in a specific situation, in the presence of certain stimuli and, above all, in an individual state which can sometimes justify the unconsciousness of the decision or the mistake of behaving violently without taking into consideration the consequences of the behaviour. The determinants of violence as a strategy are not the same as those of violent action, but in the latter the most relevant determinant is the deliberate decision to behave that way. And here lies one of the most important properties of violence, which is useful for its prediction, as all choices have associated to them a probability of occurrence, and it is this probability that can be assessed and this estimation used as a predictive value for the risk of future violence (Van Hasselt & Hersen, 2000; Hart,S.2001).

According to the WHO (Krug et al., 2002) violence is understood as a strategy for the achievement of a benefit in spite of harming others. Violence has diverse forms of expression although in general, due to the importance of its effects, we almost always consider physical violence as its most representative model. However, other types of violence which form part of this phenomenon exist, such as psychological violence, economic violence, negligence, etc.

We can distinguish the following five properties which characterize violence:

1. Complexity. Violence as a psychological strategy introduces cognitive, attitudinal, emotional and motivational components which behave in an interrelated manner and have a specific purpose. The strategies are defined or characterized by their purpose and in the case of violence we can distinguish specific purposes. Hence, terrorism has as its aim the imposition of political power, domestic violence the personal control over family members, gender violence the execution of power and dominance of women, racial violence the dominance and the subjugation of other ethnic groups, etc…
2. Heterogeneity. Violence is a heterogeneous phenomenon (Reiss et al., 1994) which appears especially evident in an applied perspective, that is,

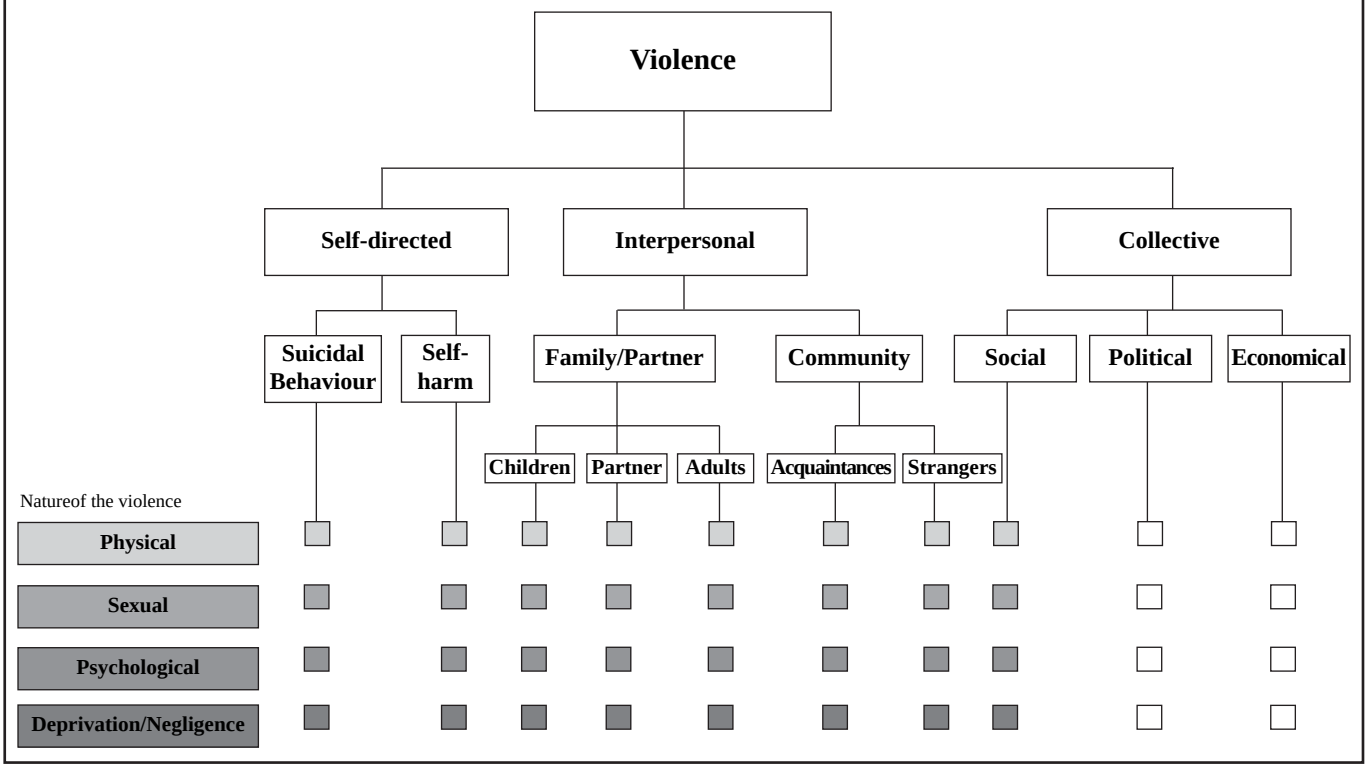
which deals with the prevention, control and the reduction of violence. There are several types of violence which can be classified according to different criteria: manner of execution (physical, psychological, sexual, and economical), characteristics of the aggressor (youths, adults, women…) and of the victim (gender violence, child abuse, mugging, etc.). In addition, it can be classified according to the relationship between aggressor and victim and thus we find bullying, mobbing, domestic or family violence.

In the aforementioned epidemiological study by the WHO, a violence typology is proposed which seems very useful and appropriate to us. They classify the types of violence according to a double criterion: the aggressor-victim relationship and the nature of the violent act. Thus, more than 30 types of violence are obtained (see Figure 1) which are the result of combining the nature of violence (physical, sexual, psychological or deprivation/abandonment) with the causal agent of violence (self-directed, interpersonal and collective). On many occasions these types of violence appear jointly and in a combined manner, but in an analytical sense they have their own prevalence, rules of apparition and associated risk factors.

The prediction of one type of violence or another has its technical exigencies on which the efficacy of prediction depends (Webster et al., 1997) and to do this professionals of forensic and criminal psychology use different procedures and instruments. This way, if for example we want to predict physical violence in general, we dispose of the HCR-20 (Webster et al., 1997) while if we want to predict partner violence, it is recommendable to use the SARA (Kropp D.et al., 1995), or if we want to predict relapse in rapists or adult sexual aggressors we would use the SVR-20 (Boer,J. et al. 1997).

3.- Multicausality. For a violent act to occur, especially severe violence such as a murder, numerous variables must coincide at a given moment, which at the same time, usually do not combine very frequently. Violent acts are to some extent uncertain events like atmospheric, technological or economic changes.

FIGURE 1
CLASSIFICATION SCHEME OF TYPES OF VIOLENCE PROPOSED BY WHO (KRUGG, ET AL. 2002)



The application of predictive techniques which originated in disciplines other than psychology is based on this property (Monahan & Steadman, 1996).

Although it seems paradoxical in order to predict violence we do not need to know what causes it, that is, its effective causes, but rather what risk factors are associated to it. This strategy is very frequently used in health disciplines such as epidemiology and public health, where the complexity and multicausality of some diseases make it difficult to intervene with an exhaustive knowledge of the "how" and "why" of the diseases and events to be predicted. Substituting causes for risk factors in violence prediction has facilitated more efficient professional action in both the management and prevention of violence (Quinsey & Harris, 1998, Hawkins et al. 2000).

Each type of violence has its specific risk and protective factors as criminological studies have demonstrated (Garrido, Stangeland & Redondo, 2006). While a past history of violence is a common risk factor in all types of violence, paraphilias are specific risk factors of sexual violence but not of physical intra-familiar violence. The specificity level of risk factors can be very significant. Thus, in the case of predicting partner abuse we can distinguish the risk factors for homicide from the risk factors for serious physical violence (Campbell,J., 1995; Belfrage, et al. 2004). Regarding the risk of murdering one's partner the aggressor's psychopathy is less relevant than the presence of an affective disorder; however, with respect to the risk of serious and continuous physical abuse of one's partner, psychopathy is more important than the presence of an affective disorder.

Due to its multicausality we can state that violent behaviour as an action itself is not predictable, but we can statistically estimate its risk of happening. This is an important distinction, especially when professionals must inform others (probable victims, health professionals, judges or policemen, family members, etc...) or when the decisions can be a matter of debate (Heilbrun, 1997; Heilbrun et al., 1999; Gottfredson, 2006).

4.- Intentionality. Violent actions are the result of a deliberate, intentional and voluntary decision to hurt or bother others. Nevertheless, we should recognize that on several occasions this decision is not penally imputable or it depends on "irrational" factors. However, the decision to behave violently is always going to be influenced, not caused, by a varied group of factors including *biological* (neurological diseases, endocrine disorders or intoxications), *psychological* (personality disorders, mental retardation, psychosis and other psychopathic alterations, emotional or mood states, prejudiced convictions, etc.) and *social* factors (exposition to violent models, violent subculture values, confrontations or situations of intense social crises). In general, these factors behave in a cooperative conjunction and influence the decision-taking process differentially previous to the execution of a violent act.

5.- Infrequency. Despite the current growing sensation that violence is very common, the truth is that it is an unusual, infrequent and rare phenomenon, especially the severe or very severe violence (Krug et al., 2002; Quinsey & Harris, 1998). This does not minimize its importance and does not mean that it is not a motive for great social preoccupation. We shall not confuse these two characteristics. But its low frequency reduces the possibility of its prediction. An earthquake is an infrequent phenomenon, in part, this is the reason for its difficult prediction, but due to its powerful and devastating effect and its catastrophic consequences, it is essential to take preventive measures adjusted in function to the estimated risk of occurrence. Thus, phenomena with very low prevalence rates are practically impossible to predict despite knowing the determinants which produce them (Quinsey & Harris, 1998).

Multicausality and infrequency of violent acts convert the prediction of violence in a difficult task. In addition a third difficulty exists: the lack of specific instruments and techniques for prediction. This has led technicians to take two antagonistic positions. Some consider that violence, because of its complexity, infrequency and multicausality is unpredictable, beyond randomly correct predictions. Others consider that violence is predictable taking into consideration intentionality, heterogeneity and its infrequency. In this second posture, technique proposals have been developed which constitute procedures for violence risk assessment which we will present later on.

One of the keys to the predictive task is precisely delimiting the criterion to be predicted (Hart, 2001), that is the type and characteristics of violence, for example: a) what types of violence are we interested in predicting? b) in which group of subjects or population? and c) for which time interval should the prediction be valid? Edens, Skeem

& Douglas (2006) make reference to the so-called "criterion problem" to describe the variability of the operative dimensions which constitute the phenomenon of interest, such as age (childhood aggression, partner abuse, elderly abuse), context (prison, school, hospital, community, home), the severity (verbal abuse, punches, homicide), or the frequency (mass murder, serial murders, repetitive domestic violence), just to name a few. Due to these numerous dimensions, a wide range of methods for measuring aggression exist (self-reports, criminal records, behavioural observation) and for predicting it (clinical judgement, actuarial designs, psychopathological inventories or of personality, situational/environmental factors). Researchers indicate that the distinction in the operationalization of interpersonal aggression and violence can lead to findings which are markedly divergent with respect to its causes, correlations and consequences, and also that the measure used to register violent incidents will substantially affect the prevalence of the results (Douglas & Ogloff, 2003).

When we refer to any type of prediction, the weather forecast we are so familiar with comes to mind. Do psychologists when predicting violent behaviour do something similar to what meteorogist do? This is a a good analogy. Meteorological predictions are required to be more detailed each time, it is not sufficient to know if it is going to rain but rather we must predict when it is going to rain, where, with what intensity, what its effects will be, etc. The psychologist, especially those working in criminological settings, must also predict antisocial behaviour in a given individual. If an inmate is going to be considered for probation, what is the risk that he/she will break the imposed rules? If he/she is doing a rehabilitation program, what are the probabilities that he/she will abandon it? And what prognosis of the effects of treatment can be expected or what is the existing risk that he/she will reoffend?

At present the most utilized strategy in the prediction of violent behaviour, based on clinical tradition consists of assessing the individual´s dangerousness (Campbell, 1995; Gisbert Calabuig, 1998, Gotffredson, 2006; Maden 2007). In front to this strategy violence risk assessment has been proposed. They both have the same aim but their justification and efficacy distinguish them, as well as the reported advantages for the professionals who compromise their decisions with respect to their ethics and legislation in force. Both approximations will be analyzed in more detail in the next section.

DANGEROUSNESS VS. RISK OF VIOLENCE

Dangerousness, aside from being a judicial concept, is also a common concept which forms part of everyday language and refers to the tendency of an individual to commit violent and dangerous acts (Scott & Resnick, 2006; Mulvey & Lidz, 1998). The concept of dangerousness summarizes, but only with apparent clarity, the idea of the predictor "par excellence" of future violence. It has currently been and is used for this purpose in the penal legislations of most western countries. It has also been the object of controversy in the field of penal law as well as in Criminology and Psychiatry because while for some it is "useful and productive", for others it is nothing but a "source of problems" (Carrasco & Maza, 2005). However, it seems that it is still an unquestionable concept in juridical and forensic science (Serrano Gómez, 1974).

Dangerousness is introduced for the first time in the "lombrosian" context of criminology at the end of the XIX century. It is derived from the concept of "temibilitá" proposed by Rafaelle Garofalo (Garrido et al., 2006) according to whom dangerousness is based in the individual's psychological characteristics and attributes which justify the risk for future violent behaviour. In its original meaning dangerousness made reference to "the constant and active perversity of the delinquent and the quantity of foreseen evilness we should fear on his/her part" (Garofalo, 1893, quoted by Garrido et al. 2006). This initial markedly clinical conception considered dangerousness as a pathological mental state with a constitutional origin. The association between pathology and dangerousness still prevails (although debated) in the psychiatric and psychoanalytical traditions, and we can find an example in the case of sexual violence. This first conception of dangerousness was intimately linked to severe mental disorder and so it prevails.

Due to the development of judicious practice throughout the twentieth century, the concept of dangerousness has lost part of its initial clinical sense and acquired a more neutral, actuarial meaning. Thus, for the distinguished Spanish old lawyer Jiménez de Asúa, dangerousness consisted of the "manifest probability that a subject will become the author of crimes or commit new infractions" (quoted by Carrasco & Maza, 2005; pp 197).Today, dangerousness is considered to be a legal category by which we know the risk of a person, with or without a criminal history, committing new crimes. During this historical transition, the concept of dangerousness as an

unmodifiable, dispositional attribute linked to mental disorders was substituted by that of "dangerous state" which attends to the variability of this attribute associated to the changes in the delinquent´s mental stability, changes caused by the passage of time, etc. Serrano Gómez (1974) says that "the dangerous state is a situation in which because of dispositional and environmental factors working together, an individual potentially constitutes a being with probabilities of committing a crime, or al least of disturbing the social order established by law".

In the same way as dangerousness spread to the judicious framework of penal laws, it also appeared in the health field: "for more than 25 years, dangerousness has become a part of the nomenclature of Mental Health due to the fact that legislative institutions use it as a criteria for the hospitalization of the mentally ill" (Monahan & Steadman, 1983; pp.95). Dangerousness has occupied a privileged place in this double professional relationship because of the proximity between justice and health in the problem of violence. For this reason, the assessment of dangerousness has always been an "masterpiece" among psychiatric or psychology professionals who work in criminological contexts.

The belief that "dangerousness" is the cause of violent behaviour has maintained a certain chimera among professionals according to which if the identification of this attribute was "correct", the security and the prevention of violent recidivism was guaranteed. In some cases it has been this way, but in many other cases two types of errors have been committed. The most serious is called *false negative* and is that which happens when the presence of dangerousness in a subject is rejected and this subject commits another violent act. The other type of error committed is called *false positive* and consists of identifying the presence of dangerousness in a subject who, however, does not behave violently in the future. This error has awful consequences for the individual and at the same time important economic costs if, as we are analysing, we are talking about future violent behaviour in delinquents or the mentally ill who, by the identification of the presence of dangerousness, are kept under security measures or in treatment (sometimes psychiatric hospitalization) (Quinsey & Harris, 1998).

What do correct or incorrect violence predictions based on the "diagnosis" of dangerousness depend on? Basically, they depend on the professionals´ experience, the availability of identification techniques and the clarity with which the attribute of dangerousness can be discovered. All these factors are important and they justify the level of correct predictions obtained, which as is proper of the assessment of human psychological attributes, can never reach an accuracy of 100%. However, this conclusion characteristic of traditional clinical thought is incomplete. Epidemiology and actuarial techniques have demonstrated that the level of correct and incorrect dichotomised decisions also depend on the prevalence of the phenomenon to be predicted (Quinsey & Harris, 1998; Douglas & Cox, 1999).

One of the most important limitations of dangerousness as a predictor of violence is its inespecificity. The diagnosis of dangerousness is not useful for distinguishing which type of violence can be executed by the violent subject (except in very evident cases in which dangerousness is linked to a specific pathology such as pedophilia where we obviously deduce that dangerousness is of a sexual type with victims being children). As has already been pointed out, each type of violence has specific risk and protective factors, which is a consideration that is not taken into account when dangerousness is used in the prediction of any type of violence.

As opposed to the latter, risk assessment takes into account the predictive factors in function of the type of violence to be predicted and, this way, the predictive capacity increases considerably. These are the most relevant reasons which have promoted a change in the paradigm on which the prediction of violent behaviour is founded. Prediction experts such as A. Buchanan, J. Steadman, A. Monhanan, J. Webster, W. Quinsey or S. Hart (among the most renowned) consider that the dangerousness argument, with a markedly clinical content, should be complemented with an actuarial foundation, that is, one based on the risk factors and the empirically proven relationship between predictors and criterion (violent behaviour).

Violence risk assessment as an alternative method to the diagnosis of dangerousness in the prediction of violence, takes into account current knowledge regarding the psychology of violence and the role that professionals play in making decisions with respect to the future behaviour of, for example, sexual aggressors or partner abusers. A first assumption in violence risk assessment techniques is that, in general, we cannot predict the risk of any type of violence from the same predictors, but rather each type has its specific risk and protective factors

and, therefore, we must adapt the generic procedures for violence risk prediction to the specific type of violence we want to predict. The second assumption refers to the activity of the psychologist who has to make the prognosis. Predicting the risk for a certain event, violent behaviour, requires making a decision as to whether this problem can happen in the future and to what degree. These decisions should be made taking contrasted protocols into account which are based on empirical knowledge, and not only on expert intuition. We must not lose track of the professional responsibility that technicians assume when, with their decisions, they make predictions regarding issues of such social importance as sexual aggressor recidivism, child abuse and domestic violence and which, in fact, is where these new violence risk assessment techniques are more successfully applied.

Risk can be understood as: "a danger which can happen with a certain probability in the future and whose causes are not completely understood or cannot be controlled in an absolute manner" (Hart, 2001). As opposed to dangerousness, which we have characterized as being a discrete, static and generic variable which helps make decisions of the type (all/nothing) in prognosis, the risk of violence is a continuous, variable and specific construct which allows us to take gradual prognostic decisions regarding future violence. The presence of dangerousness in the individual centres risk control and management strategy in two types of interventions: situational control (hospitalization) and therapeutic treatment of the dangerous subject. Risk assessment increases intervention possibilities as it allows for the adjustment of risk control and minimizing procedures at the individual and contextual levels and therefore, many intervention possibilities adequate to the most probable prognosis are generated

The application of knowledge about risk factors associated to violence is the foundation for risk assessment. Criminologists and criminal psychologists have extensively researched existing types of violence according to the subjects who execute it, searching for the causes which explain their behaviour for among these we find risk factors. They have also studied which factors have an influence on the reduction or abandonment of criminal activities in order to promote these through therapeutic intervention. At the same time, these factors can also be used as protective factors. Many positive achievements have been reached, and, above all, we dispose of lists of risk and protective factors empirically associated to the most severe types of violence. Beside this distinction between risk and protective factors, if we focus on the nature of violence, we can distinguish between static and dynamic factors depending on whether they are modifiable or not during the course of the aggressor's future life.

The lists of violence risk factors are very extensive, some being common for certain types of violence and others being specific for each type (Krug et al., 2002; Andrews & Bonta, 2003). Research offers a fairly consolidated view with respect to these factors and their dynamics, and the predictive and preventive facets of violence risk assessment are nurtured by this information. In table 1 different examples of these risk factors can be seen.

What does violent behaviour risk assessment entail? The assessment of violence risk is a procedure for predicting the probability of the appearance of a given violent behaviour. It is possible to predict the risk for violent behaviour in a more precise manner than using one-dimensional predictions or chance alone. We can predict the risk of any given choice if we know its determinant factors and we have information about previous choices and their antecedents. This is true in the field of penal, criminological and psychiatric records as accumulated data exist which can offer this type of information. In order for successful predictions to take place, we would be interested in information about the following aspects: what types of violent behaviour is occurring?, what's their frequency?, under what conditions or scenarios?, what conditions are present?, how did they intervene?, what happened afterwards?, etc. Intensive strategies for psychological assessment, actuarial procedures based on psychological tests and other strategies (clinical, epidemiological…) have been developed for identifying the risk of certain violent behaviours, although an important lack of precision still remains in such predictions. Among the estimations of the risk for more severe forms of violence in need of appropriate prediction procedures due to the seriousness of their consequences, we find the following: suicide risk, homicide perpetrated by minors, different kinds of sexual aggression, domestic and family violence and, naturally, violence in general (Elbogen, 2002).

Lastly, we would like to point out an important consequence derived from the change in the paradigm regarding dangerousness and risk assessment. This refers to risk management. For anyone who receives a "high or imminent" risk for violence prognosis, this information

should be an incentive to urgently seek measures in order to avoid the confirmation of this prognosis (Moran et al. 2001). The minimization of the risk for violence is the step which follows the risk assessment. This new technical approach is called risk management and it is intimately related to assessment. Risk management is based on the comprehension of why the subject chose to behave violently in the past, on determining if the risk/protective factors which influenced the decision are still present and will be in the future and in promoting those factors which could lead them to make non-violent decisions as alternative conflict resolution strategies. Risk management makes reference to the application of the available knowledge generated in studies on risk assessment in order to minimize the current frequency of violent and delinquent behaviours as well as their effects, and is a field where experts should develop new intervention strategies in their fight against violent behaviour (Douglas, Cox & Webster, 1999; Douglas, Ogloff & Hart, 2003; Björkdahl, Olsson & Palmstierna, 2006).

PROCEDURES AND TECHNIQUES FOR VIOLENCE PREDICTION

We have described the violence risk assessment procedures as an alternative to classical clinical assessment of dangerousness in the prediction of violence. This change came accompanied by a very outstanding development in the design and fine-tuning of specific instruments aimed at helping professionals in this task. These instruments were first emerged in the context of the prediction of violence and recidivism in patients and inmates suffering from severe mental disorders in Canada. Later, they were extended to deal with the prediction of other types of violence and so instruments for predicting sexual violence, partner and domestic abuse emerged, and they were adopted by other countries such as the United Sates, Great Britain, Sweden, Norway, Germany, the Netherlands, etc. (Hilton & Harris, 2006). New instruments for assessing violence risk in youths and adolescents, prison inmates and also for predicting violence in the workplace have appeared. Table 2 shows an extensive list of diverse prediction instruments, many of which have not yet been adapted to our context. In Spain the Grupo de Estudios Avanzados en Violencia *(GEAV)* at the University of Barcelona has adapted to Spanish language three of these instruments, the HCR-20, the SVR-20 and the SARA, which are useful to respectively predict serious physical violence in psychiatric patients and inmates, sexual violence and partner abuse. Other teams and institutions have adapted other instruments, for example the VRAG (*Violence Risk Appraisal Guide*, by Dr. Graña's research team at the Universidad Complutense of Madrid), the PCL-R and its derived scales (with different versions by several teams in Spain, among these the one headed by Dr. R. Torrubia at the Autonomous University of Barcelona and by Dr. V. Garrido at the University of Valencia), or the SAVRY (*Scale for Assessment of Violence Risk in Youths*, adapted by E. Hilterman at the Centre for legal studies and specialized formation at the Generalitat de Catalunya). In short, it can be said that in the last 20 years the development and spreading of these techniques has significantly improved the task of violence prediction performed by professionals who work in penitentiary and mental health settings (Esbec, 2003)

Among mental health professionals and criminology experts, risk assessment, and even of dangerousness, is an individual assessment process which begins with the recollection of the individual's relevant data and finalizes with taking decisions regarding his/her future behaviour. The gathering of data for risk assessment includes personal interviews, standardized psychological and medical assessment, a review of socio-sanitary and judicial records and collateral recollection of information (Webster et al., 1997). In this sense, the information used for making decisions about dangerousness and about the risk of violence is not very different. What is different is the organization and determination of which information is necessary for assessing the risk of violence (it will specifically vary for each type), the weighing of each risk

TABLE 1
SOME RISK FACTORS, STATIC AND DYNAMIC, CLASSIFIED ACCORDING TO THE TYPE OF VIOLENCE TO WHICH THEY ARE ASSOCIATED

	Sexual violence	Partner violence	Domestic violence
Static	* Sexual abuse suffered in childhood * Previous violence history	* Partner violence history * Breach of restraining orders	* Abuse suffered in childhood * Physical violence history
Dynamic	* Alcohol consumption * Erroneous beliefs about sexual relations	* Jealousy * Alcohol consumption * Machista attitudes	* Alcohol consumption * Economic difficulties * Affective disorders

factor and the relationship norms of the assessments performed which define the results of the same. This process, as we will see, can be performed by the "inaccessible" mind of an expert, the cold calculations of a computer which only applies protocol, or the professional who is guided and helped by decision-taking protocols.

Let us take a very brief look at some of the details of each of these procedures and techniques for violence prediction. As well, we will mention some of the main risk assessment instruments which are published and available for professional use. All these have many elements in common as they help in the decision-making process. Any decision making process is carried out based on data obtained using different procedures, the combination of these and the rules which determine the decision to be made. This way of proceeding is similar in all risk assessment techniques but at the same time it is what distinguishes them. There are three great procedures: non-structured clinical assessment, actuarial assessment and structured clinical assessment (Hart, 2001).

Non-structured clinical assessment. It consists of the application of traditional clinical assessment and prognostic resources for the prediction of violent behaviour. It has been generalized based on dangerousness diagnostic techniques, being understood as a pathological state of the subject (Gisbert-Calabuig, 1998). It is characterized for not having "explicit" protocols or rules beyond those of the clinical expert. In this procedure we can include objective assessment instruments such as tests or other objective information derived from history records and others, but the data obtained are processed without following any known explicit rule. The main characteristic in this procedure is the freedom of criterion with which each professional approaches the problem of predicting risk in function of his/her formation, personal preferences, professional habits and the nature of demands.

This procedure presents a notable difficulty in finding empirical and systematic justifications as it has low inter-judge agreement levels, little precision and a weak theoretical justification (Buchanan, 1999; Elbogen, 2002; McMillan et al. 2004). The predictions proposed using this method are obtained mainly on the basis of the professional's "contrasted experience" (Maden, 2007).

The certain loss of prestige of these techniques comes from the difficulty, or sometimes the impossibility, of knowing the key elements which made the clinician take a certain decision, for example considering the release of a patient with an acute mental disorder. This lack of transparency, which many times has more do with the method than with the clinician's willpower, has been greatly criticized as it does not permit the contrast of the reliability of the decision using careful replication. As we will see later, this is an obstacle which has been overcome by structured or actuarial procedures, especially by the so-called "risk assessment guides" (Andres Pueyo & Redondo, 2004).

Actuarial assessment It is essentially characterized by a careful and detailed register of all the relevant data of an individual's personal history, especially those facts empirically related to the behaviour or criterion which is the object of prediction. This is why it is described as actuarial, as the term actuary etymologically means to register previous information in great detail in order to make risk assessments. Besides the in-depth register of relevant information, actuarial procedures also involve an adequate deliberation (also obtained empirically) regarding the importance of each piece of information using mathematical combination rules. These rules permit us to obtain a certain probability score which reflects, with great accuracy, the risk that what we want to predict will happen (Hart, 1997; Quinsey & Harris, 1998).

Actuaries predict the future based on one only presupposition according to which the future probability of something happening depends on the weighted combination of the factors which determined their appearance in the past (Meehl, 1954; Grove et al. 2000). There are no theoretical, causal or deterministic models which explain the reason for the behaviour as they are not needed for actuarial prediction. The future is a repetition of the past. It is only of interest to know the probability of something happening in the future, not the why, how or where it happens, only the probability of it happening. If history tells us that the presence of psychopathy and childhood behavioural problems are antecedents for antisocial behaviour in adulthood (Simonoff, 2004) we could predict the increase in the risk of violence in a subject who presents both facts in his personal biography.

From the mid-eighties, multiple actuarial instruments for risk assessment have been developed. Despite not having been generally extended, at present some well-contrasted instruments are available. We would like to emphasize among them the VRAG (Quinsey et al. 1998), the STATIC99 (Hanson, 1999), the ODARA (Hilton et al.

TABLE 2
LIST OF PROTOCOLS AND VIOLENCE RISK ASSESSMENT GUIDES WITH SPECIFICATIONS ABOUT THEIR USE, AUTHORS AND AVAILABILITY IN SPAIN FOR PROFESSIONAL USE

Guide or Protocol	Predictors	Criteria and applications	Refer.	Available in Spain
DA Dangerous Assessment	Specific risk factors for uxoricide	Risk of partner homocide	Campbell, 1995	Yes, pilot adaptation GEAV-UB
ODARA Ontario Domestic Assessment Risk Scale	13 domestic violence risk factors	Partner abuse within the family	Hilton & Harris, 2004	Yes, pilot adaptation GEAV-UB
STATIC-99	10 sexual violence risk factors	Sexual violence: pedophile and sexual aggressor recidivism Long prediction interval	Hanson et al (1999)	No Spanish adaptation
VRAG Violent Risk Appraisal Guide	Items of personality development, history of violent and non-violent behaviour. Includes PCL-R.	Predicts, for a 7-10 year interval, the risk of violent behaviour in mental patients.	Quinsey, Harris, Rice & Cormier (1998)	Yes, experimental adaptation UCM-Forensic Psychology
SORAG Sex Offender Risk Appraisal Guide	Items of personality development, history of abnormal behaviour and sexual preferences and sexual deviant behavior.	Predicts, for a 7-10 year interval, the risk of sexual violence.	Quinsey, Harris, Rice & Cormier (1998)	No Spanish adaptation
HCR-20 * Assessing Risk for Violence	20 Risk factors: Historical, Clinical and risk management presented in a single instrument in a protocolized guide format	Predicts physical violence in populations of mental disorder patients and chronic delinquents	Webster, Douglas, Eaves & Hart (1997)	Yes, available professional adaptation by Andres and Hilterman. GEAV/UB
SVR-20 * Sexual Violence Risk Assessment	20 Risk factors: Historical, Clinical and risk management presented in a single instrument in a protocolized guide format	Predicts risk of sexual violence. Management of sexual violence risk	Boer, Hart, Kropp & Webster (1997)	Yes, available professional adaptation by Andres and Hilterman. GEAV/UB
RSVP * The Risk for Sexual Violence Protocol	22 items of risk: history of sexual violence, psychological adjustment, mental disorder, social adjustment and management Protocolized guide format	Risk for sexual violence and recidivism management	Hart et al. 2003	Pilot version exists J.C.Navarro GEAV/UB
SARA Spousal Assault Risk Assessment Guide*	20 Risk factors for partner abuse, specific violence, specific violence, psychosocial adjustment, "index offense" and others. Protocolized guide format	Assesses risk for severe physical and sexual violence and threats from partner or ex-partners	Kropp, Hart, Webster & Eaves (1999)	Yes, available professional adaptation by Andres and Lopez. GEAV/UB
LSI-R Level Service Inventory-Revised	List of risk factors and criminogenic necessities. Combines dynamic and static variables. Designed for management of prison inmates' treatment.	Assesses risk of recidivism and difficulties in treatment adaptation in hospitalization	Andrews & Bonta 1995)	Experimental adaptation by V. Garido (Univ. of Valencia)
SAVRY Structured Assessment of Violence Risk in Youth	20 Risk factors, similar to the HCR-20 and presented in a single instrument in a protocolized guide format	Severe violence in young adolescents	Borum et al. 2003.	Professional adaptation in catalán exists E. Hilterman CEJFE
PCL Psychopathy Check List	Actuarial clinical procedure, of 20 items (variable) of criminal history and personality variables. There are different versions for specific age groups.	Violence in general especially that associated to personality disorders	R.Hare & otros	Available Spanish adaptations Dr. Torrubia UAB. Dr. Garrido UV Dr. Luengo USC
WAVR-21 Assessing Workplace Violence Risk	Guide with 21 Risk factors for violence at the workplace. Includes dynamic and static factors.	Designed for assessment of risk for violence, threats and escalating processes of violence at labour organizations.	S.White & R.Meloy (2007)	Not available in Spain
COVR Clasification of Violence Risk	Actuarial protocol of risk factors selected by the ICT method.	Severe physical violence in psychiatric patients	Monahan, Steadmany Appelbaum	Not available in Spain

2004) and the ICT (Monahan et al. 2000) (see Table 2)

Actuarial procedures apply the rules discovered in group studies on individuals and naturally the risk of making a mistake is directly related to the inter-subject variability of the groups. The greater the heterogeneity of the individuals within a group or class, the more inadequate the application of the actuarial rules on each individual will be. This, which is true of clinical settings where the individualization of treatment is aspired to, must be complied with in the judicial framework where individuality prevails in an outstanding manner in the application of laws. Actuarial assessments are actually not individual assessments but rather group generalizations applied to individuals and this is perhaps the most important limitation of the procedure.

Assessment using structured clinical judgement. We can briefly define this technique as a mixed clinical-actuarial assessment. It requires numerous decisions from the assessor, based on expert knowledge about violence and its risk factors, helped by "assessment guides" whose structure comes from actuarial analyses and are designed using an explicit and fixed series of identified and known risk factors. These guides specify the manner and the way of gathering and collecting information which will later be useful for decision taking. However, it does not generally introduce restrictions or orientations regarding the actual decision-taking process (that do appear in actuarial procedures) or the way of summarizing and communicating the obtained results and decisions.

In general these guides of structured judgement, which include the minimum risk and protective factors which have to be assessed for each type of violence and population group, are the most useful for violence risk assessment because they help to avoid the more habitual prediction errors. Among these, they help to avoid oversights, as they assure that professionals check each and every one of the essential areas which have to be assessed for predicting the risk of a certain kind of violence. They also avoid clinician biases in decisions such as estimating the rise or fall in function of the beliefs about the prevalence of the type of violence we want to predict; they avoid being guided by illusory correlations or concentrate only on notable indices.

The same as with actuarial instruments, the guides of structured judgement have multiplied in the last 15 years. Among the most outstanding we find the HCR-20 family (SVR-20, SARA, SAVRY, EARL-B, etc.) which emerged in Canada around the work of D. Webster and S. Hart. The PCL-R family (PCL-SV and PCL-YV) initially developed by R. Hare and other guides such as those of L. Andrews and J. Bonta or of J. Campbell are specific for the prediction of uxoricide (see table 2).

In sum, risk assessment procedures which we have called "guides" as is the case of the HCR-20, are tools at the service of professionals and do not substitute these in decisions taking. The structure imposed by the assessment protocol especially affects the recollection and assessment of the risk factors which compose the guides, that is, it affects the data which we "necessarily" have to identify. Decisions for estimating risk and future plans for its reduction are left in the hands of technicians. Final decisions are up to the professional, not to protocol.

It has been said that the usefulness of risk prediction for violent behaviour is fundamentally the avoidance of it happening. In the most immediate way its specific objectives would be the following:

a) to guide the intervention by professionals in the tasks of prediction and not leave up to their judgement the procedure of risk assessment, because this method has been proved to be unreliable, of doubtful and irrefutable validity.
b) improve the consistency of decisions when taking into consideration the collection of relevant and significant data referring to the subject´s case history, of the clinical state and situational variables (risk/protection factors) which surround the subject whose future behaviour is to be predicted.
c) improve the transparency of decisions as we have a register of the different types of steps which offer transparency in the decision and final recommendations.
d) to protect the rights of the clients and users, as the decisions, sometimes useful and correct but sometimes not, can be analyzed in the light of the rights which project the target group (whether victim or aggressor).

Following these general orientations, it is possible to state that violence risk predictions, performed by the described rigorous procedures, are perfectly comparable with regards to quality and possibilities to those in other recognized professional areas which are useful, such as meteorological prediction, predictions in civil engineering, sociological or economic predictions. The technical rigour which has been defended here considerably increases the efficacy of violence risk assessments by psychology professionals, widening the repertoire of possibilities for intervention in risk management and the prevention of

violence and its consequences (Doyle & Dolan, 2002; Tëngstrom et al. 2006).

CONCLUSIONS

The professional actuality of Psychology applied to the problems of delinquency has been extended along with demands related to violence in its different forms. In this context, the necessity of violence prevention has brought to the front the necessity of having available techniques for predicting violence with greater efficacy than the traditional dangerousness assessment techniques characteristic of forensic and penitentiary settings. The advances in the knowledge of violence and its forms, and above all, the identification of the risk factors which promote it, have permitted the introduction of new procedures. These have been generalized very rapidly and in the last 15 years have been transferred from limited forensic psychiatry and criminology settings to professional practice in clinical psychology, social services and judicial-penal settings.

As has been described, the new risk assessment techniques which follow structured clinical judgement and which are materialized in the form of risk assessment guides have improved the predictive efficacy of the prognosis of violence in penitentiary, mental patient, domestic aggressor and partner abuser populations and in the labour and educational fields. Together with this increase in predictive efficacy, structured guides permit the design of minimization and violence risk management procedures which is as important as future prediction itself. At last, it is convenient to highlight that these techniques help in decision taking and facilitate the clarity and transparency of expert judgement, which frequently is the object of dispute due to the consequences that these kinds of decisions entail. At present, we have available several guides adapted to our Spanish socio-judicial setting and others will soon be available, standardizing professional resources with those of other more advanced countries in the use of these prediction procedures. .

Acknowledgements: This work has been carried out within the framework of the development of research projects SEC2001-3821-C05-01/PSCE and SEJ2005-09170-C04-01/PSIC, Ministry of Education and Science, Government of Spain

REFERENCIAS

Andres Pueyo, A. (1997). *Manual de Psicologia Diferencial.(Differential Psychology Manual)* Madrid: McGraw Hill.

Andres Pueyo, A. y Redondo, S. (2004) Aportaciones psicológicas a la predicción de la conducta violenta, reflexiones y estado de la cuestión. (Psychological contributions to violence behaviour prediction, reflections and state of the question) *II Congreso Virtual de Psicologia Jurídica y Forense*. Madrid.

Andrews, J. y Bonta, R. (2003). *The Psychology of criminal conduct.* (3 ed.) Cincinnati, Anderson Pub. Co.

Arboleda-Flórez, J., Holley, H. et al. (1998). Understanding causal paths between mental illness and violence. *Social Psychiatry and Psychiatric Epidemiology, 33*, 38-46.

Beck, J. C. (1996). Predicting inpatient violence. *American Journal of Psychiatry 153*(6), 845.

Beck, U. (1998). *La sociedad del riesgo.(Risk society)* Barcelona: Paidos.

Belfrage, H., Fransson, G. et al. (2000). Prediction of violence using the HCR-20, A prospective study in two maximum-security correctional institutions. *Journal of Forensic Psychiatry, 11*(1), 167-175.

Belfrage, H., Douglas, K.S. (2002). Treatment effects on forensic psychiatric patients measured with the HCR-20 violence risk assessment scheme. *International Journal of Forensic Mental Health, 1*(1), 25-36.

Belfrage, H. y Rying, M. (2004). Characteristics of spousal homicide perpetrators, a study of all cases of spousal homicide in Sweden 1990–1999. *Criminal Behaviour and Mental Health, 14*, 121–133

Björkdahl, Olsson y Palmstierna (2006). Nurses short term prediction of violence in acute psychiatric intensive care. *Acta Psychiatrica Scandinavica, 113,* 224-229.

Blackburn, R. (1999). Violence and Personality Distinguishing among Violent Offenders. En D. Curran y W. McCartney (Eds.). *Psychological Perspectives on Serious Criminal Risk*. Leicester: British Psychological Society.

Boer, D. P. et al. (1997). The SVR-20. Guide for assessment of Sexual Risk Violence. (Hay versión española editada por Hilterman y Andres-Pueyo. Manual de valoración del riesgo de violencia sexual. Barcelona: Pub. Universidad de Barcelona)

Borum, R. (1996). Improving the Clinical Practice of Violence Risk Assessment. *American Psychologis,t 51*(9), 945-956.

Buchanan, A. (1999). Risk and dangerousness. *Psychological Medicine, 29,* 465-473.

Campbell, J. C., Ed. (1995). *Assessing Dangerousness. Violence by sexual offenders, batterers, and child abusers*. Thousand Oaks: SAGE Publications.

Carrasco, J. y Maza, M. (2005). Manual de Psiquiatria. Madrid: La Ley.

Cohen, D. A. (1997). Notes on the clinical assessment of dangerousness in offender populations. *Psychiatry On-Line*, 1-7.

Derzon, J. H. (2001). Antisocial behavior and the prediction of violence, A meta-analysis. *Psychology in the Schools. Special Issue, Appraisal and prediction of school violence, 38*(2), 93-106.

Dinakar, H. S. y Sobel, R. N. (2001). Violence in the community as a predictor of violence in the hospital. *Psychiatric Services, 52*(2), 240-241.

Dolan, M. y Doyle, M. (2000). Violence risk prediction, Clinical and actuarial measures and the role of the Psychopathy Checklist. *British Journal of Psychiatry, 177*, 303-311.

Douglas, K. S., Cox, D. N. y Webster,C.D. (1999). Violence risk assessment, Science and practice. *Legal & Criminological Psychology, 4*(Part 2), 149-184.

Douglas, K. S. y Kropp, P. R. (2002). A prevention-based paradigm for violence risk assessment, Clinical and research applications. *Criminal Justice & Behavior. Special Issue, Risk assessment, 29*(5), 617-658.

Douglas, K. S., Ogloff, J. R. P. y Hart. S. (2003). Evaluation of a model of violence risk assessment among a forensic psychiatric patients. *Psychiatric Services, 54*(10), 1372-1379.

Douglas, K. S. y Skeem, J. L. (2005). Violence Risk Assessment. Getting Specific About Being Dynamic. *Psychology, Public Policy, and Law, 11*(3), 347-383.

Douglas, K. S., Yeomans, M. et al. (2005). Comparative validity analysis of multiple measures of violence risk in a sample of criminal offenders, Erratum. *Criminal Justice and Behavior, 32*(6), 736-737.

Doyle, M. y M. Dolan (2006). Predicting community violence from patients discharged from mental health services. *British Journal of Psychiatr,y 189*(6), 520-526.

Dutton, D. G. y Kropp, P. R. (2000). A review of domestic violence risk instruments. *Trauma Violence & Abuse, 1*(2), 171-181.

Edens, J. F., Skeem, J.L. et al. (2006). Incremental validity analyses of the Violence Risk Appraisal Guide and the Psychopathy Checklist, Screening Version in a civil psychiatric sample. *Assessmen,t 13*(3), 368-374.

Elbogen, E. B., Calkins, C., Scalora, M.J., Tomkins, A. J. (2002). Perceived relevance of factors for violence risk assessment, a survey of clinicians. *International Journal of Forensic Mental Health, 1*(1), 37-47.

Elbogen, E. B. (2002). The Process of Violence Risk Assessment, A Review of Descriptive Research. *Aggression and Violent Behavior, 7*, 591-604.

Elbogen, E. B., Van Dorn, R.A. et al. (2006). Treatment engagement and violence risk in mental disorders. *British Journal of Psychiatry, 189*(4), 354-360.

Esbec, E. (2003) Valoración de la peligrosidad criminal.(Criminal dangerousness assessment) *Psicopatologia legal y forense*, 3(2),45-64. *(Legal and forensic psychopathology)*

Farnham, F. R. y James, D. V. (2001). 'Dangerousness' and dangerous law. *Lancet, 358*(9297), 1926.

Fuller, J. y Cowan, J. (1999). Risk assessment in a multi-disciplinary forensic setting, Clinical judgement revisited. *Journal of Forensic Psychiatry 10*(2), 276-289.

Gardner, W., Lidz, C. W. et al. (1996). Clinical versus actuarial predictions of violence in patients with mental illnesses. *Journal of Consulting & Clinical Psychology, 64*(3), 602-609.

Garrido, V., Stangeland, P. y Redondo, S.(2006) *Principios de Criminología (Principles of Criminology)* (3ª. Ed). Valencia: Tirant Lo Blanch.

Gisbert Calabuig, J.A. (1998). Medicina Legal y Forense. (Legal and Forensic Medicine) Barcelona: Masson.

Gottfredson, S. M., LJ (2006). Statistical risk assessment, Old problems and new applications. *Crime & Delinquency, 52*(1), 178-200.

Grisso, T. y Tomkins, A.J. (1996). Communicating Violence Risk Assessments. *American Psychologist, 51*(9), 928-930.

Grove, W. et al (2000). Clinical versus mechanical prediction, a meta-analysis. *Psychological Assessment, 12*(1), 19-30.

Harris, G. T. y Rice, M. E. (1997). Risk appraisal and management of violent behavior. *Psychiatric Service,s 48*(9), 1168-1176.

Harris, G. T., Rice, M. E. et al. (2002). Prospective replication of the Violence Risk Appraisal Guide in predicting violent recidivism among forensic patients. *Law & Human Behavior, 26*(4), 377-394.

Hart, S. D. (1997). The role of psychopathy in assessing risk for violence, Conceptual and methodological issues. *Legal & Criminological Psychology, 3*(Part 1), 121-137.

Hart, S. (2001). Assessing and managing violence risk. En K. Douglas et al.(Ed.). *HCR-20, violence risk management companion guide (pp. 13-26).* Vancouver: SFU ed.

Hastings, J. E. y Hamberger, L. K. (1997). Sociodemographic predictors of violence. *Psychiatric Clinics of North America, 20*(2), 323-335.

Hawkins, J. D., Herrenkohl, T.I., Farrington, D.P., Brewer, D., Catalano, R.F., Harachi, T.W., Cothern, L. (2000). Predictors of youth violence. *Juvenile Justice Bulletin.*

Heilbrun, K. (1997). Prediction versus management models relevant to risk assessment, The importance of legal decision-making context. *Law & Human Behavior, 21*(4), 347-359.

Heilbrun, K., Ogloff, J. R. P. et al. (1999). Dangerous offender statutes in the United States and Canada, Implications for risk assessment. *International Journal of Law & Psychiatry. Special Issue, Current issues in law and psychiatry, 22*(3-4), 393-415.

Hemphill, J. F. y Hare, R. D. (2004). Some misconceptions about the Hare PCL-R and risk assessment, A Reply to Gendreau, Goggin, and Smith. *Criminal Justice and Behavior, 31*(2), 203-243.

Hilton, N. Z., Harris, G.T., Rice, M.E., Lang, C., Cormier, C.A. y Lines, K.J. (2004). A Brief Actuarial Assessment for the Prediction of Wife Assault Recidivism, the Ontario Domestic Assault Risk Assessment. *Psychological Assessment, 16*(3), 267-275.

Hilton, N. Z., Harris, G. T. et al. (2006). Sixty-Six Years of Research on the Clinical Versus Actuarial Prediction of Violence. *Counseling Psychologist 34*(3), 400-409.

Hodgins, S. (1997). An overview of research on the prediction of dangerousness. *Nordic Journal of Psychiatry. Special Issue, Forensic psychiatric research in the Nordic countries, 51*(Suppl 39), 33-38, 73-95.

Hodgins, S. y Janson, C. G. (2002). *Criminality and violence among the mentally disordered. The Stockholm Project Metropolitan*. Cambridge: Cambridge University Press.

Johnson, B. R. (2000). Assessing the risk for violence. *Psychiatric aspects of violence, Issues in prevention and treatment. New directions for mental health services, No. 86.* C. C. Bell. (pp. 31-36). San Francisco, CA: Jossey-Bass/Pfeiffer.

Kroner, D. G., Mills, J.F (2001). The accuracy of five risk appraisal instruments in predicting institutional misconduct and new convictions. *Criminal Justice and Behavior, 28*(4), 471-489.

Kropp, P.D. et al. (1995). The Spousal Assault Risk Assessment Guide. Vancouver: BCAFV. (versión en castellano de Andres-Pueyo, A. y Lopez, S. 2004. Barcelona: Pub. Universidad de Barcelona)

Kropp, P. R. y Hart, S. D. (1997). Assessing risk of violence in wife assaulters, The Spousal Assault Risk Assessment Guide. En C. D. Webster and M. A. Jackson (Eds.), *Impulsivity, Theory, assessment, and treatment* (pp. 302-325). New York, NY: Guilford Press.

Krug E.G., Dahlberg, L.L, Mercy, J.A. y Zwi, A.B. (2002). *World Report on violence and health*. Ginebra: World Health Organitzation.

Loza, W., Villeneuve, D. B. et al. (2002). Predictive validity of the Violence Risk Appraisal Guide, A tool for assessing violent offender's recidivism. *International Journal of Law & Psychiatry, 25*(1), 85-92.

Maden, A. (2001). Practical application of structured risk assessment. *British Journal of Psychiatry, 178, 479.*

Maden, A. (2007). *Treating violence, a guide to risk management in mental health*. Oxford: Oxford Univ. Press.

Meehl, P. (1954). *Clinical vs. statistical prediction, a theorethical analysis and a review of the evidence.* Minneapolis: University of Minnesotta Press.

McMillan et al (2004) Clinical and actuarial prediction of physical violence in a forensic intellectual disability hospital. *Journal of Applied Research in Intellectual abilities*, 17, 255-265.

McNiel, D. E. y Binder, R. L. (1996). Predicting inpatient violence, Reply. *American Journal of Psychiatry, 153*(6), 845-846.

Miller, M. C. (2000). A model for the assessment of violence. *Harvard Review of Psychiatry, 7*(5), 299-304.

Monahan, J. (1996). Violence prediction, The past twenty and the next twenty years. *Criminal Justice & Behavior, 23*(1), 107-120.

Monahan, J. y Steadman, H.J. (1983). Crime and mental disorder, an epidemiological approach. En M.Torny y M.Norris (Eds.). *Crime and Justice,* 4, 145-189

Monahan, J., Steadman, H.J., Appelbaum, P.S., Robbins, P.C., Mulvey, E.P., Silver, E., Roth, L.H., y Grisso, T. (2000). Developing a clinically useful actuarial tool for assessing violence risk. *British Journal of Psychiatry 176,* 312-319.

Monahan, J. y Steadman, H. J. (1996). Violent storms and violent people, How meteorology can inform risk

communication in mental health law. *American Psychologist, 51*(9), 931-938.

Moran, M. J., Sweda, M. G. et al. (2001). The clinical application of risk assessment in the treatment-planning process. *International Journal of Offender Therapy & Comparative Criminology, 45*(4), 421-435.

Mossman, D. (2000). Commentary, Assessing the risk of violence—Are accurate predictions useful? *Journal of the American Academy of Psychiatry & the Law, 28*(3), 272-281.

Mulvey, E. P. y Lidz, C. W. (1998). Clinical prediction of violence as a conditional judgment. *Social Psychiatry & Psychiatric Epidemiology, 33*(Suppl 1), S107-S113.

Nestor, P. G. (2002). Mental disorder and violence, personality dimensions and clinical features. *American Journal of Psychiatry, 159,* 1973-1978.

Ozer,J. y Benet,V. (2006). Personality and the prediction of consequential outcomes. *Annual Review of Psychology, 57,* 401-421.

Paradas, J.M. (2003) El riesgo como construcción conceptual. (Risk as conceptual construction) *Rev.Catalana de Seguretat Pública,* 13, 11-31.

Quinsey, V. L., Harris, G. T. et al. (1998). Violent offenders, Appraising and managing risk.

Rapp-Paglicci, L. A., Roberts, A. R. et al. Handbook of violence. ¿???

Reiss, A.J. (ed) (1994). *Understanding and preventing violence.* New York: National Research Council.

Salekin, R. T., Rogers, R. et al. (1996). A review and meta-analysis of the Psychopathy Checklist and Psychopathy Checklist—Revised, Predictive validity of dangerousness. *Clinical Psychology, Science & Practice, 3*(3), 203-215.

Schopp, R. F. (1996). Communicating risk assessments, Accuracy, efficacy, and responsibility. *American Psychologist, 51*(9), 939-944.

Scott, C. L. y Resnick, P. J. (2006). Violence risk assessment in persons with mental illness. *Aggression and Violent Behavior, 11*(6), 598-611.

Serrano Gomez, (1974) La ley de peligrosidad y la rehabilitación social. (Dangerousness law and social rehabilitation) ADPCP.

Simonoff, E., Elander, J., Holmshaw, J., Pickles, A., Murray, R., Rutter, M. (2004). Predictors of antisocial personality. *British Journal of Psychiatry, 184,* 118-127.

Simourd, D. J. (2004). Use of dynamic risk/need assessment instruments among long-term incarcerated offenders. *Criminal Justice and Behavior, 31*(3), 306-323.

Skeem, J. L., Mulvey, E. P. et al. (2000). Building mental health professsionals' decisional models into tests of predictive validity, The accuracy of contextualized predictions of violence. *Law & Human Behavior, 24*(6), 607-628.

Steadman, H. J., Silver, E., Monahan, J., Appelbaum, P.S., Robbins, P.C., Mulvey, E.P., Grisso, T., Roth, L.H. y Banks, S. (2000). A classification tree approach to the development of actuarial violence risk assessment tools. *Law and Human Behavior, 24*(1), 83-100.

Szmukler, G. (2001). Violence risk prediction in practice. *British Journal of Psychiatry, 178,* 84-85.

Tardiff, K. The past as prologue, Assessment of future violence in individuals with a history of past violence. ¿????

Tëngstrom,A. et al. (2006). Predicting violence and antisocial behavior in hospital using the HCR-20. *International Journal of Forensic Mental Health, 5*(1), 39-53

Van Hasselt, V. B. y Hersen, M. (Eds.), (2000). *Aggression and violence. An introductory text.* Boston: Allyn & Bacon.

Walters, G. D. (2000). Disposed to agress ?, in search of the violence-prone personality. *Agression and Violent Behavior, 5*(2), 177-190.

Webster, C. D., Hucker, S.J., y Bloom, H. (2002). Transcending the actuarial versus clinical polemic in assessing risk for violence. *Criminal Justice and Behavior, 29*(5), 659-665.

Webster,C. D. y Jackson M. A. (1997) *Impulsivity, Theory, assessment, and treatment.* New York, NY: Guilford Press

Webster, C. D. y Cox, D. (1997). Integration of nomothetic and ideographic positions in risk assessment, Implications for practice and the education of psychologists and other mental health professionals. *American Psychologist, 52*(11), 1245-1246.

Webster, C. D., Douglas, K. S. et al. (1997). Assessing risk of violence to others. *Impulsivity, Theory, assessment, and treatment.* C. D. Webster and M. A. Jackson. New York, NY, Guilford Press, 251-277.

Weisz, A. N., Tolman, R. M. et al. (2000). Assessing the risk of severe domestic violence, The importance of survivors' predictions. *Journal of Interpersonal Violence, 15*(1), 75-90.

Williams, C. R. y Arrigo, B. A. (2002). Law, psychology, and the new sciences, Rethinking mental illness and dangerousness. *International Journal of Offender Therapy & Comparative Criminology, 46*(1), 6-29.

Wollert, R. (2001). An analysis of the argument that clinicians under-predict sexual violence in civil commitment cases, Commentary. *Behavioral Sciences & the Law. Special Issue, Youth Violence, 19*(1), 171-184.

Wong, S. C. P. y Gordon, A. (2006). The Validity and Reliability of the Violence Risk Scale, A Treatment-Friendly Violence Risk Assessment Tool. *Psychology, Public Policy, and Law, 12*(3), 279-309.

Zeiss, R. A., Tanke, E. D. et al. (1996). Dangerousness commitments, Indices of future violence potential? *Bulletin of the American Academy of Psychiatry & the Law, 24*(2), 247-253.

Papeles del Psicólogo, 2007. Vol. 28(3), pp. 174-186
http://www.cop.es/papeles

VIOLENCE RISK ASSESSMENT IN MENTAL DISORDERS WITH THE HCR-20

Karin Arbach y Antonio Andrés Pueyo
Universidad de Barcelona

The relationship between mental illness and violence is complex and controversial. In spite of the difficulties and prejudices, its study should not be avoided given that its consequences affect the health and well-being of people who suffer from mental disorders and their environment. Many mental health professionals who work in clinical or forensic settings are faced with this problem daily and on several occasions with the urgency of dealing with violent behaviour. Despite the overwhelming evidence obtained in the last twenty years concerning the reality of this problem, there still persists the belief that speaking about violence and mental illness has negative effects on patients because it increases their social stigmata.
Recent epidemiologic research questions these beliefs and it has facilitated the development of adequate strategies to prevent and predict these problems. Evidence indicates that mental disorder is a risk factor for future violence and that the probability of its happening can be predicted, prevented or minimized. For this aim, violence risk assessment guides such as the HCR-20 have been developed for professional applications.
The HCR-20 is a violence assessment guide specifically designed for the prediction and management of the risk of future violence in people with a mental disorder or people who have committed one or more violent crimes. In this paper, there is a brief revision of recent epidemiologic findings regarding the relationship between violence and mental disorder, a description of the HCR-20 guide also is included, emphasizing its use in clinical settings and institutions. Finally, the preliminary results of a study conducted in Spain to explore its predictive validity in a sample of people with a severe mental disorder are shown.
Keywords: *Dangerousness, mental disorders, violence risk assessment*

La relación entre enfermedad mental y violencia es compleja y sobre todo polémica. A pesar de las dificultades y prejuicios no debería obviarse su estudio ya que sus consecuencias afectan a la salud y bienestar de las personas que sufren una enfermedad mental y de su entorno. Numerosos profesionales de la salud mental que trabajan en contextos clínicos y forenses se enfrentan cotidianamente con este problema y, en muchas ocasiones, con la urgencia de intervenir frente al comportamiento violento. A pesar de las numerosas evidencias obtenidas en los últimos 20 años acerca de la realidad de este problema aún persiste el convencimiento de que hablar de violencia y enfermedad mental solamente tiene efectos negativos para los enfermos mentales porque aumenta su estigma social. Los recientes estudios epidemiológicos cuestionan estas creencias y han facilitado el desarrollo de estrategias adecuadas para prevenir e intervenir técnicamente en este problema. Las evidencias indican que la enfermedad mental es un factor de riesgo de violencia, que se puede predecir y prevenir o minimizar la probabilidad de que ocurra. Para estas tareas se han desarrollado instrumentos de aplicación profesional como el HCR-20.
El HCR-20 es una guía de valoración del riesgo de violencia diseñada específicamente para predecir y gestionar el riesgo de violencia futura en grupos de personas con enfermedad mental o en personas que han cometido uno o más delitos violentos. En este artículo se presenta una breve revisión de los recientes hallazgos epidemiológicos sobre las relaciones entre violencia y enfermedad mental, se incluye una descripción de la guía HCR-20, haciendo énfasis en su uso en contextos hospitalarios y se presentan los resultados preliminares de una investigación realizada en España para explorar su validez predictiva en un grupo de personas afectadas de trastorno mental grave.
Palabras Clave: *Peligrosidad, Trastorno mental, violencia, valoración del riesgo de violencia*

Serious violent crimes such as those which shook the University of Virginia Tech (16-04-07, U.S.A.) when a student with psychiatric antecedents perpetrated a massacre in which 33 students and professors died, or the multiple murder occurred in a Jiménez Díaz Foundation's Clinic in Madrid during 2003 committed by a medical resident affected by a severe mental disorder, reveal a reality in which violence and mental disorder seem to be related. Although these events receive enormous coverage by the media, they do not represent the most frequent and daily reality concerning the violent behaviour of mental patients. This affirmation is based not only on the infrequency of such cases, but also on the fact that it is more frequent for mental patients to be victims rather than authors of violence (Stuart, 2003), a fact not often expressed in the media.

Correspondence: Karin Arbach. *Grupo de Estudios Avanzados en Violencia. Facultad de Psicología-Universidad de Barcelona. Paseig Vall Hebron 171. 08035 Barcelona. España.*
E_Mail: K_arbach@hotmail.com

Whether correctly or incorrectly, violence and mental disorder seem to be irreversibly related in popular thinking (Appelbaum, 2006; Pescosolido, Monahan, Link, Stueve y Kikuzawa, 1999; Phelan y Link, 1998). Today, one of the central aspects of the stereotype associated with mental illness is dangerousness and it is the key to the stigma and discrimination suffered by people with mental illness (Silver, 2006; Stuart y Arboleda-Flórez, 2001). Many people attribute an elevated risk of violent behaviour to people with mental illness, perceiving them to be unpredictable and dangerous, prone to impulsive, aggressive and socially inadequate behaviour (Stuart, 2003; Eronen, Angermeyer y Schulze, 1998; Tiihonen, Hakola, Eronen, Vartiainen y Ryynänen, 1996; Rabkin, 1979).

The belief that mental disorder is the base for the dangerousness of certain delinquents and the reason for many violent acts (for example, sexual aggression, domestic or partner abuse) is widely accepted by public opinion and appears as the causal justification of numerous violent crimes. However, the use of *mental disorder* as a clarifying concept for explaining such a complex behaviour as violent actions is no more than a risky theoretical simplification, and even more so if this argument is used to guide professional action.

According to Mullen, Burgess, Wallace, Palmer and Ruschena (2000) growing attention about crime and violent behaviour in people with schizophrenia and other severe mental disorders is due to a greater awareness about these phenomena more than to an real increase in such behaviour, it means that this attention is not founded on an increase in violent behaviour in the mental disordered population.

The stereotypical image of the mentally disordered as violent seems, at least in part, to be based on recent evidence that identify a high rate of violence in a subgroup of people with mental illness (Angermeyer, Cooper y Link, 1998; Arboleda-Flórez, 1998) and is associated to the concept of dangerousness as a psychological disposition related to the risk of violent behaviour. This viewpoint is slightly obsolete to the extent that when dangerousness as an innate disposition stops being used as a predictor of future violence, that viewpoint will begin to disappear (Andres-Pueyo & Redondo, 2007).

From the opposite position, in numerous academic and assistential contexts, many social science researchers and patient advocates argue that the proposed relationship between mental disorder and violence is a false belief which is prejudiced and feeds the stigma of the mental patient as a violent subject. According to this viewpoint, the prevalence of violent behaviour committed by mental patients in the community is low and it has a rate not higher to violence prevalence in general population (Morera, Hueso y Martinez, 2001).

However, for a few decades, many mental health professionals have recognized that violence is relatively frequent in a limited group of patients. Initially emerging from day-to-day clinical work, this perception was interpreted in empirical terms when, starting in the 80s, large scale epidemiological studies and some clinical-forensic studies, found higher prevalence rates for violent behaviour in psychiatric patients than those observed in general population (Wessely, 1997).

VIOLENCE AND MENTAL ILLNESS

Interpersonal violence, whether physical, sexual or psychological, is not simply a psychopathological symptom or manifestation, but is more a reciprocal and interactive phenomenon which arises in the context of social relationships (Angermeyer, Cooper y Link, 1998). The spreading of theories which relate violence to instincts, uncontrollable impulses and inadequate social learning (Storr, 1991; Rojas Marcos, 1995; Sanmartin, 2004) tend to forget that violence is a deliberate strategy which is related to real or imaginary conflicts that people have among themselves, and for this reason attends to more complex regulating mechanisms among which the aggressor's intention of carrying out violent behaviour for a specific purpose stands out (Andrés & Redondo, 2007; Tobeña, 2001).

Of the different types of violence (see World Report on Violence and Health, WHO, 2002) in this paper we will focus on the interpersonal violence exercised by people with major mental disorders. Recent literature on violence risk assessment define violent behaviour as *the behaviour that produce a real harm, or an attempt or threat to harm one or more people, is the behaviour which objectively may cause harm to other/s (Webster, Douglas, Eaves y Hart, 1997)*. Acts which may be reasonably feasible in harming another person, threatening behaviour and aggression against property, are included in this concept. In order to be considered violent, threats must be clear and believable (Douglas, Cox y Webster, 1999; Webster, Douglas, Eaves y Hart, 1997).

A great part of the interest in the relation between

mental illness and violence rises from public safety concerns, but the topic is also relevant to the quality of life and well-being of people with mental disorders and their environment because of the consequences for those patients such as possible judicial reports, prison, family or community rejection, or the feeling of guilt (Link y Stueve, 1995). Violent behaviour by the mentally disordered people has an important impact at different levels. At a clinical level, it is frequently associated to relapses, rehospitalization, and limited results in outpatient treatment (Swanson et al., 2000), on the other hand, it generates human costs reflected in the suffering of the victims, their family and the aggressor. Economic costs are also important due to the impact this behaviour has on institutions (Hodgins, 2001). An objective assessment process of the risks associated to mental disorders is a necessary condition for reducing stigma and overcoming the social rejection of the affected individuals (Angermeyer, Cooper y Link, 1998) and definitively, for improving the quality of life of these patients.

Although the relation between mental illness and violent behaviour was debated throughout history and cultures, the controversy did not awaken a real interest in mental health researchers until the mid 60s (Arango, Calcedo Barba, Gonzalez Salvador y Calcedo Ordoñez, 1999; Eronen, Angermeyer y Schulze, 1998; Marzuk, 1996). Until that time, the scientific bibliography referring to the relation between mental disorders and violence was scarce and inconsistent (Hodgins, Mednick, Brennan, Schulsinger y Engberg, 1996), and few studies sustained the notion that people with mental disorders were no more violent and had even fewer possibilities of carrying out violent acts than the general population. In consequence, a great proportion of mental health professionals believed that relating both concepts was an artifact which fed the stigmatization of people with serious psychopathologies.

During this period, there was a reform of psychiatric practice which led to the limitation of psychiatric hospital beds and reduced hospital stays in favour of community treatment programs for people with mental illness (Grassi, Peron, Marangoni, Zanchi y Vanni, 2001; Hodgins, 2001; Raja, Azzoni y Lubich, 1997; Hodgins, Mednick, Brennan, Schulsinger y Engberg, 1996). Until that time, individuals suffering from a severe mental disorder were institutionalized for long periods of time or ever during their all life, but after psychiatric reform treatments which included brief hospitalizations and relatively flexible criteria for hospital release were generalized.

While a great number of psychiatric hospitals began to "close their doors", prison admissions for subjects with mental disorders were increasing (Wallace, Mullen y Burgess, 2004; Hodgins, 1998; Hodgins, Mednick, Brennan, Schulsinger y Engberg, 1996). When the penitentiary system found itself "overpopulated", delinquents with mental disorders began to be referred to the health system, now reduced to a few beds in general hospitals (Rabkin, 1979). This process was called the "criminalization" of mental patients, and partly explains the increase of criminal or violent histories in psychiatric patients files (Skeem et al., 2004). This factor favoured the stereotypical image of people with serious mental disorders and the negative consequences associated to the stigma, such as withdrawal, segregation or rejection (Swanson et al., 2000; Arango, Calcedo Barba, Gonzalez Salvador y Calcedo Ordoñez, 1999; Marzuk, 1996; Swanson, Borum, Swartz y Monahan, 1996).

As has already been pointed out, a great part of psychological and criminological orthodoxy sustained (and still does in the present) the inexistence of the relation between mental illness and violence. It is difficult to think how this belief could have been maintained in spite of the evidence that was being found and that sustained a different image (Maden, 2007). The most surprising paradox is that among the professionals working daily in the care of these patients or the relatives living with them, the idea that they are potentially more violent than those not affected by mental disorders is an usual consideration and this opinion is probably founded on the fact that they are the most frequent victims of the violence carried out by the mentally disordered.

After a period in which experts appeared to agree with the idea that violence among inpatients is not a problem different from the rest of the population, the belief was revised for several main reasons: the limitations of the studies on which it was based, the consequences of "deinstitutionalization", new outpatient treatments for serious mental disorders, the improvement of the patients social integration, the spread of drug abuse and other criminological elements and the forensic science advances in crime area.

AVAILABLE EVIDENCE

After the Second World War, a series of epidemiological studies interested in clarifying the controversial question relative to the existence or not of a relation between

mental illness and violent behaviour was carried out. Many of these had as an additional objective the identification of risk factors which could influence violent behaviour in this population with the purpose of preventing it. In the last forty years, studies with different designs and consistent results were performed which demonstrate that the prevalence of violent behaviour in people affected by serious mental illness is greater than in general population (Wessely, 1997), and that this rate increases notably in the presence of drug abuse coexistence (Walsh, Buchanan y Fahy, 2002).

The evidence that justifies the existence of a proven relationship between mental disorder and violence proceeds from: a) studies on the prevalence of violence in people with mental illness, b) studies on the prevalence of mental disorders in people who have committed violent acts and are or have been in contact with the criminal justice system and c) community epidemiological studies designed specifically to discover the joint prevalence of mental disorders and violent behaviour (Monahan, 1992). Following, the main results of some of the studies which stand out for their rigour and methodological quality are described.

In 1981, J. Ortmann examined the criminal registers and psychiatric admissions of a cohort of 11,540 men born in Copenhagen in 1953 and who still lived in Denmark in 1975. He found that 43.5% of men treated for mental disorders had one or more sentences (83% of them had a comorbid substance abuse disorder) compared to 34.8% of men without mental disorder (Ortmann, 1981 in Hodgins, 1992). A decade later, S. Hodgins (1992) explored psychiatric and police registers of a cohort composed of 15,117 people born in Stockholm in 1953 and who still lived in Sweden at 30 years old. The men who had developed a serious mental disorder showed a relative risk 2.5 times greater for all crimes and 4 times greater for violent crimes compared to the men without mental disorders. In the men with substance or drug abuse or dependence, the risk was 20 times greater than in those without mental disorders. Also, in women with serious mental disorders, the risk was 5 times greater for common crimes and 27 times greater for violent crimes, compared to women without disorders. It is interesting to point out that it was not found that the risk of developing a comorbid substance abuse disorder varied significantly according to diagnostic categories (schizophrenia, serious affective disorder, paranoid states, and other psychosis) (Hodgins, 1992).

In another study directed by S. Hodgins in Denmark (Hodgins, Mednick, Brennan, Schulsinger y Engberg, 1996) psychiatric admission registers and violent crime sentences were obtained for a cohort born between 1944 and 1947 and who lived in the country in 1990. The sample was composed of 158,799 women and 165,602 men. The prevalence, type and frequency of sentences among those who had been hospitalized for different psychiatric disorders (6.6% of the total sample, of these 2.2% were hospitalized for a serious mental disorder) and people who had never been hospitalized, were compared. In the women, all the diagnostic groups had a crime risk between 3 and 10 times greater compared to those who had no mental disorders. In the men, the risk for a criminal sentence was also increased between 2 and 7 times in all diagnostic groups (Brennan y Alden, 2006; Hodgins, Mednick, Brennan, Schulsinger y Engberg, 1996).

In a further analysis of this data, Brennan, Mednick & Hodgins (2000) found that even after controlling demographic factors, substance abuse and personality disorders, individuals with a mental disorder were more likely to have an arrest for violent crime compared to individuals who had never been hospitalized, although this relationship decreased after controlling for those variables. Schizophrenia, paranoid type especially, was the only mental disorder associated to an increased risk of violent behaviour in both sexes (Brennan, Mednick y Hodgins, 2000). Although this finding may suggest that paranoid symptoms play a role in the risk for violence, it is important to point out that the bibliography on this subject is not totally conclusive (Brennan y Alden, 2006).

In Finland, Tiihonen, Isohanni, Räsänen, Koiranen & Moring (1997) followed during 26 years a cohort of 12.058 individuals born in 1966. In general terms, the authors concluded that various specific mental disorders, such as schizophrenia and affective disorders with psychotic symptoms were associated to an elevated risk for violent criminal behaviour. The risk of violent crime in men with schizophrenia was 7 times greater than in men without mental disorders, even after controlling socio-economic status and substance abuse. They also noted that more than half of the people with schizophrenia had problems with alcohol and that violence rates increased from 7.5% in patients with schizophrenia to 36.4% in cases in which schizophrenia coexisted with substance abuse.

With data obtained directly from surveys of a sample of 10,000 people in communities of five cities in the U.S.A., Swanson, Holzer, Ganju and Jono (1990) found that 2% of the population without mental illness *versus* 12% of those with schizophrenia admitted to have antecedents of violence in the past year. The study revealed that: a) the prevalence of violence was 5 times greater in those who fulfilled criteria for a diagnosis in axis I of DSM-III than in those who had no diagnosis, comorbid alcohol abuse duplicated the likely of violence in those with mental disorders, and illicit drugs abuse tripled it, b) the prevalence of violence in those who fulfilled criteria for schizophrenia, manic depression, major depressive disorder or bipolar disorder were notably similar (between 11 and 12.7%) and finally, c) the prevalence in those with a diagnosis of alcoholism or drug abuse was between 12 and 16 times greater than in people with no diagnosis. The best demographic and clinical predictors of violence were being male, young, from a lower social class, with a serious mental disorder and substance abuse.

Another relevant study is that of Link, Andrews and Cullen (1992) conducted in New York. Their data proceed from a survey of 753 people and the sample was composed by psychiatric patients, outpatients and inpatients, and community residents. Fourteen percent of the total sample self-reported having been arrested at some point against 8.6% who were on record in official registers. Psychiatric patients showed higher rates of violent behaviour both in official registers and in self-reports when compared to community residents who had never received psychiatric treatment. In patients, the risk of violence was 2 to 3 times greater than in the community sample which had never been treated, and there were no significant differences between the former. Consistent with the results of Swanson, Holzer, Ganju and Jono (1990), being male, young, with a lower educational level and coming from neighbourhoods with high crime potential, was significantly associated to the risk of violence. However, even when an extensive list of socio-demographic and personal factors, including the use of alcohol or drugs, had been controlled, the significant differences in the rate of violent behaviour between patients and residents of the community systematically remained, and only disappeared when the current psychotic symptomatology was controlled regardless of the group to which they belonged. The psychotic symptoms scale was the only variable which explained the difference between violent groups and non-violent groups, even among residents who had never been treated. The fact that psychotic symptoms explain such differences does not mean that these symptoms are a robust cause of violence in the community, nor does it allow for the conclusion that the symptoms *per se* cause violence; in fact, the difference between groups, although significant, is modest (Link y Stueve, 1994; Link, Andrews y Cullen, 1992).

The studies previously analysed suggest that people who actively experience symptoms of a severe mental disorder show violent behaviour at rates several times higher than members of general population without mental disorder, and that this difference persists even when a wide range of social and demographic factors are taken into account.

Studies with imprisoned population also support the idea of a relation between mental illness and violence. Although prisons and incarcerated people vary enormously between countries, it is possible to extract from the results the idea that psychiatric morbidity, including schizophrenia, is greater in the imprisoned population than in general population, and that drug and alcohol abuse disorders are one of the biggest problems that must be faced by professionals who work with this population (e.g. Andersen, 2004; Hodgins, 2001; Stuart y Arboleda-Flórez, 2001; Wallace et al., 1998; Eronen, Tiihonen y Hakola, 1996; Côté y Hodgins, 1992; Hodgins, 1992; Teplin, 1990). From the global results of an extensive revision of studies conducted in prisons, it can be concluded that compared to the general population of a similar age, subjects in penitentiary institutions have between two and four times more risk of suffering from a psychotic or a major depressive disorder, and almost 10 times more probabilities to have an antisocial personality disorder (Fazel y Danesh, 2002).

The findings presented, along with extensive evidence currently available, permits the conclusion that psychiatric patients, hospitalized or in the community, show greater rates of violent behaviour than people without mental disorders, and that people who are or have been in prison are at greater risk than the general population of suffering from a severe mental disorder. However, compared to the magnitude of the risk of violence associated with substance abuse disorders or personality disorders, the risk associated to severe mental disorders is moderate and comparable to socio-demographic factors such as being young, male and with a low educational level, and moreover it seems to be linked to particular symptomatic constellations.

THE MACARTHUR VIOLENCE RISK ASSESSMENT STUDY

One of the most important studies about violence risk in psychiatric population is the MacArthur Violence Risk Assessment Study carried out in the United States (Monahan et al., 2001). John Monahan summarized the empirical bibliography till the date of its publication and it is an excellent source of reference for information on the main violence risk factors in this population (Monahan et al., 2000; Monahan y Steadman, 1994). It is a prospective and multicentric large-scale research which constitutes the most sophisticated initiative to unravel the complex interrelations among violence risk factors in the psychiatric population (Skeem y Mulvey, 2001).

The Project had a budget of more than 18 million dollars and a great part of these resources were dedicated to improving the violent behaviour assessment protocol and rigorously obtain the maximum amount of information relative to this problem in association with mental disorders. For this purpose, a cohort of 1,136 psychiatric patients of both sexes with ages between 18 and 40 years olds, independently of whether or not they had violent antecedents was followed. The patients were released from three hospitals in the United States and have diagnosis of affective disorder, thought disorder, substance abuse or personality disorder. While they were hospitalized, they were assessed on more than 130 potential violence risk factors, the main criteria to be studied and predicted were community violence. Certain antecedents and biographical data were also studied previous to the patients´ release.

Once in the community, each participant was interviewed every 10 weeks. The purpose of these continual interviews was to obtain detailed information about the violent behaviour carried out by subjects released by means of a self-report. At the same time, this information was completed with data facilitated by observers who frequently treated or knew the subject well. As a third source of data, official police and/or judicial information was included.

Global results indicate that 61% of patients behaved violently in the community during the first year after release. Of these, 28% carried out serious violent behaviour, although rates varied in function of the data source used and the type of violence committed. For example, the prevalence of serious violence throughout one year was 4.5% using official registers of arrests or rehospitalization, 23.7% adding self-reports about non-registered acts and 17.5% adding data obtained from collateral informers not considered in official registers, nor self-reported. In other words, the final prevalence for serious violence was 6 times higher that the estimated only by official registers (Appelbaum, Clark Robins y Monahan, 2000; Steadman et al., 1998).

Taking into account the different diagnosis of patients, the results indicated that 9% of patients with schizophrenia were violent in the first 20 weeks after release, 19% of those who received a diagnosis of depression, 15% of those who had bipolar disorder, 17.2% of those with other psychotic disorders, 29% of those who had substance abuse disorders and 25% of those who had personality disorders (Walsh, Buchanan y Fahy, 2002; Monahan et al., 2000). Nevertheless, the diagnosis of severe mental disorder was associated to a low level of violence. In contrast, other variables such as the severity and frequency of physical abuse in childhood, the diagnosis of comorbid substance abuse, violent thoughts, a suspicious attitude toward others and auditive hallucinations of internal loss of control are strongly related to violence. Finally, the most robust predictors of violence in the community were the psychopathy measured by the PCL:SV (Hart, Cox y Hare, 1995), the diagnosis of antisocial personality disorder, the abuse of alcohol or drugs and the score on an anger assessment scale (Monahan et al., 2001).

From the MacArthur study, diverse specific studies have been derived (Edens, Skeem y Douglas, 2006; Skeem et al., 2004; Skeem, Mulvey y Grisso, 2003; Monahan, 2002; Rice, Harris y Quinsey, 2002; Monahan et al., 2001; Skeem y Mulvey, 2001; Appelbaum, Clark Robins y Monahan, 2000; Dolan y Doyle, 2000; Steadman et al., 2000; Steadman et al., 1998) and the reader can find in them detailed information about the risk factors explored and their association to violence. Their results are convergent in great measure with other studies and have highlighted other factors, apart from those already mentioned, consistently associated to violence in the mentally disordered such as age, sex, personality, previous history of violence, drug abuse and cultural influences. Some of the most relevant findings for this article are presented in table 1.

RISK ASSESSMENT USING THE HCR-20

In spite of stemming from disciplines in the judicial-forensic field dangerousness has become an important criteria in the taking of many decisions related to the management of civil and forensic psychiatric patient care.

Due to the role that mental health professionals play in the identification of dangerousness and the relevance of violent behaviour problems in patients affected by mental illness, it is more urgent every day to incorporate violence risk assessment and management strategies which are empirically founded on clinical decision making (Webster, et al. 1997; Maden, 2007).

In agreement with what is called the **structured clinical model** (Douglas et al, 2003) clinicians can incorporate schemes for the assessment of violence risk into their daily tasks to: a) structure the assessments that are requested of them, b) base them on factors which have demonstrated an empirical link to violence, c) communicate clear and pertinent conclusions, and d) reasonably guide decision-making. The HCR-20 *(Webster, Douglas, Eaves y Hart, 1997)* is a guide for violence risk assessment in mental patients and violent prisoners which represents the current dominant tendency of this model and its main objective is to reliably and precisely identify patients with low, medium or high risk of violence.

TABLE 1
A SELECTION OF RESULTS FROM THE MACARTHUR STUDY (EXTRACTS OF MADEN, 2007)

1. In people with mental illness, the prevalence of moderate to severe violent incidents throughout the year is about 30%. In inpatients this level of prevalence generally accumulates in the first days of hospitalization when the symptomatology is more acute decreasing rapidly to levels as low as 13.5% within a few weeks and 6.9% at a later time (which appears to be more stable). Almost 30% of violent patients show delirious pathology at the moment of aggression. In these cases the decrease is less and goes from 17% to 12% respectively. Less than 10% of violent incidents occurred when the patients had a psychotic episode, with most of the violence happening at home and the victims being relatives or friends.

2. Drug consumption and abuse is more important than the mental illness as a cause of violence. Drug abuse increases the risk of violence both in patients affected by a mental disorder and people without a disorder, but as the consumption of drugs is so frequent by people with mental disorders, it seems that violence is inherent to the disorder, but this is a false perception (Steadman et al., 1998).

3. Assessment using the PCL-SV is useful for predicting the risk of violence, in fact it is one of the best predictors in both "civil" psychiatric and the general population, for which its consideration in clinical practice is recommended and not only in forensic contexts. When this measure is combined with that of drug abuse its predictive capacity increases considerably.

4. The violent episodes executed by people with a mental disorder in the community have the same motivations and triggers than the rest of community members and must be understood in the same terms and obeying the same rules. This finding is not applicable to inpatients.

Description and applications of the HCR-20

This instrument assesses the risk of physical violence, and was developed for application in the field of civil, forensic or penitentiary psychiatry. It works as a guide for making probabilistic judgements about the risk of future violence. It facilitates the realization of a personalized assessment directed to the preventive case management through the consideration of 20 risk factors selected because their association with violence in the scientific and professional bibliography, and also through consultation with forensic mental health professionals (Douglas, Yeomans y Boer, 2005).

It contains three subscales that gather three types of violence risk factors: past, present and future (see table 2). The historical subscale (H) consists of 10 items of static character which gathers information typically documented in official registers referring to the patient's biography. The psychopathy measured by the PCL:SV (Hart et al. 1997) and established as a strong violence correlate, is part of this subscale H. Clinical subscale (C) includes five items related to the current psychological functioning of the assessed. Risk subscale (R) is composed of five items which reflect future situational risk factors (Douglas y Webster, 1999). IN or OUT must be codified according to whether the context which the prediction refers to is institutional or communitary. Clinical and risk management items attempt to help in the formulation of risk management plans because they are sensitive to change (Douglas, Yeomans y Boer, 2005). In addition, the inclusion of dynamic factors makes the instrument adequate for carrying out repeated assessments depending on changes in circumstances (Douglas y Webster, 1999), the changing and situational character of violence risk is basic in this work perspective.

The clinicians must establish the violence risk level (low, moderate or high) in each case based on the risk factors structured assessment, the importance that it is esteemed for them in the case in question and the degree of intervention considered adequate to prevent the violence. For the administration of this scale, several data sources are used which can guarantee reliable information (records, clinical case histories and interviews). The information obtained from clinical files or available documentation is used before to interview the patient for providing a scheme to be completed. The administration of the HCR-20 requires specific training, as well as professional judgement and capacity and a certain familiarity with the bibliography on the nature and prediction of violence.

As will be outlined later and after a generalization on the use of this guide in international and professional contexts, diverse investigations have shown an interest in knowing the psychometric properties of the HCR-20 as well as its effectiveness. The great majority of these investigations have been developed in the United States, Canada, the Netherlands and Scandinavian countries. However, the analysis of the Spanish version of this instrument is still scarce due to its recent incorporation in the professional field. There are some exceptions such as the studies of J. Folino in Argentina and J. Virués Ortega in Spain, in both cases with forensic psychiatric population. In Spain, the HCR-20 has been adapted by the Group of Violence Advanced Studies of the University of Barcelona (Hilterman y Andrés Pueyo, 2005). This is the authorized Spanish version and it is the one which has been used in the study which will be commented on later.

In both, retrospective and prospective revised studies, the HCR-20 has shown good predictive validity (por ej. Dernevik, Grann y Johansson, 2002; Doyle, Dolan y McGovern, 2002; Belfrage, Fransson y Strand, 2000; Dolan y Doyle, 2000; Grann, Belfrage y Tengström, 2000; Mossman, 2000; Douglas, Ogloff, Nicholls y Grant, 1999; Douglas y Webster, 1999; Strand, Belfrage, Fransson y Levander, 1999; Belfrage, 1998), we can consider that long term predictions using HCR-20 are accuracy enough (Douglas, Ogloff, Nicholls y Grant, 1999), the inter-judges reliability has also proven to be acceptable (e.g. Douglas, Ogloff y Hart, 2003; Dernevik, Grann y Johansson, 2002; Douglas, 2001; Douglas y Webster, 1999; Belfrage, 1998).

A study on the HCR-20 predictive validity

The authors of this article carried out a prospective study in order to know the HCR-20 predictive validity on violent behaviour in a sample of 114 psychiatric patients who, after obtaining the corresponding authorization from the hospital centre, were followed for one year during their hospitalization (Arbach, Andres Pueyo, García-Forero, Pomarol Clotet y Gomar, 2007; Arbach y Andres Pueyo, 2006b). In this period, 40% of the subjects manifested verbal threats, 29% committed an aggressive act against objects, 11.4% committed self-harm and 40% were violent towards other people. Considering only the physical violence towards others, of the 36 patients who were violent in the first quarter of monitoring, 73.5% relapsed in the second, and 60.6% did so in the last quarter of the follow-up. This finding justifies the idea that, as in the community, during hospitalization violent behaviour is concentrated in a small, although critical, subgroup of people, and a great proportion of patients who manifest violent behaviour at certain time will tend to relapse in the future. With this knowledge, it is possible to advance preventive measures in order to reduce the risk of future violent behaviour.

The HCR-20 total score and the clinical subscale score showed correlation rates of r=±0.5 with short-term violence, and of r=±0.4 with longer-term violence. Mean scores especially in subscales C, R and in the HCR-20 total score increased 3 to 4 times the probability of being violent during the whole follow-up period. To a lesser degree, subscale H did so, as mean scores in this measure increased short-term future violence risk by approximately two times, but its effect on risk decreased over time to non-significant levels. In resume, the results of our study show that a high score for these risk measures predicts the occurrence of violence throughout the year, although the greatest accuracy seems to be obtained at short-term (Arbach y Andres Pueyo, 2006a).

Throughout the year, the HCR-20 reached a percentage of correctly classified subjects which varied between 75% and 77.5%, which allows us to suggest that its

TABLE 2
ITEMS ASSESSED BY THE HCR-20

HISTORIC ITEMS	
H1	Previous violence
H2	Age at first violent incident
H3	Unstable partner relations
H4	Job-related problems
H5	Substance-abuse problems
H6	Severe mental disorder
H7	Psychopathy
H8	Juvenile misadjustment
H9	Personality disorder
H10	Supervision noncompliance
CLINICAL ITEMS	
C1	Lack of insight
C2	Negative attitudes
C3	Current presence of severe mental disorder symptoms
C4	Impulsivity
C5	No response to treatment
RISK MANAGEMENT ÍTEMS	
R1	Lack of feasible future plans
R2	Exposition to destabilizing factors
R3	Lack of social support
R4	Noncompliance with prescribed treatment
R5	Stress

classification power is moderate to high and notably improves predictions made at random. As an additional conclusion, the study demonstrated that the Spanish adaptation of the HCR-20 behaves just as efficiently as the English, Swedish or French versions in similar populations.

RISK MANAGEMENT

A negative consequence of the lack of importance that clinicians give to violent behaviour in patients (except when it is very evident and frequent) is that they rarely explore it in their anamneses nor do they consider appropriate its inclusion in case files. This practice, which is quite widespread, is inadequate for the prevention and prediction of future violence given that, as we have mentioned, the prediction of future behaviour is based, as a minimum, on the knowledge of previous history. It is important to point out that among the static risk factors for future violence, which generally have a historical nature, the most relevant is past violence (e.g. Waldheter, Jones, Johnson y Penn, 2005; Walsh et al., 2004).

We believe that reducing violence risk assessment to a process in which a patient or inpatient is labelled by categories of high or low risk is a simplification which eliminates details of enormous importance to the task and, mainly, eludes its practical application focussed on prevention. From this simplistic perspective, if we classify an individual with a high risk of future violence and he/she commits an act of violence (e.g. physically attacks his/her partner) a few months after having been assessed, we say that we were right in the classification and prognosis. If, on the contrary, we decide that the subject has a low risk of committing an aggression in the future and later we see that, in effect, he/she has not committed a violent act in the past 18 months, and then we also consider ourselves right in the classification. But in the field of social and human sciences, as in the majority of sciences, predictions are not always correct. On many occasions mistakes or errors in classification and prognosis are made. A number of intervening factors turn all predictions into a relatively fortuitous act in which the probability of being right or wrong determines the efficacy of the predictions.

Although many of the violent acts committed by mentally disordered people seem to be unavoidable, especially when they are associated to chronic pathologies of difficult treatment, the probability that new acts of violence occur can be minimized by means of an individualized prevention policy derived from an adequate management of risk factors. Individualized management begins with a complete risk assessment, followed by the recommendations that we have presented in this article, and by a risk management plan design which must be reconsidered when there are changes in the patient's clinical, personal or social situation. Violence risk assessment in people with a mental disorder or in those who have committed violent acts, does not pretend simply to be limited to a forensic prediction of future violence, but must be the first step in the real prevention of future violence by the identification of risk factors which having been present in a person's history, could be present in the different scenarios where that person will most probably live his/her future life.

CONCLUSIONS

Epidemiological studies carried out in distinct countries by different research groups has demonstrated that there is a relationship between violence and mental disorder in which the latter clearly plays a role as risk factor for the former. However, it is necessary to remember that the majority of people affected by a mental disorder are not violent and that the majority of violent events which occur in our society are committed by people without mental disorders. Although the risk that anyone could become the victim of an attack perpetrated by a mentally ill person is very low, this risk increases for people who know them, deal with them or are related to them, generally through family or care-giving ties.

It is recommendable to include a violence risk assessment in routine treatment of the mentally ill, as the occurrence of this type of behaviour is an important part of the many difficulties and complications that appear in the patients social lives and their environment.

The HCR-20, which we have briefly presented here, is a violence risk assessment guide useful for being administered in contexts of inpatient and outpatient care, both in clinical fields and in forensic or penitentiary fields. It is good for assessing the risk of violent incidents in the future and for managing the factors which increase or reduce it in order to prevent it from happening. The Spanish adaptation of the instrument behaves in an efficient way and is comparable to the original Canadian one and to others applied in the United Kingdom, the Netherlands or Scandinavian countries.

Finally, although the risk for the occurrence of violence by the people with mental disorder is low or moderate,

this does not mean that it does not exist (Maden, 2007) or that nothing can be done about it. Professionals working in mental health care should take interest in violence committed by their patients, not because it is very frequent or common, but because it refers to the efficacy of their therapeutic activity and, above all, because it can be prevented, and in this way it can be reduced the stigma associated to this condition, favoured the efforts for the social integration of these people and, finally, improved the quality of their lives.

Acknowledgements: This work has been carried out within the framework of the development of research projects SEC2001-3821-C05-01/PSCE and SEJ2005-09170-C04-01/PSIC of the Ministry of Education and Science, Government of Spain.

REFERENCES

Andersen, H. S. (2004). Mental health in prison populations. A review - with special emphasis on a study of Danish prisoners on remand *Acta Psychiatrica Scandinavica, 110*(Suppl. 424), 5-59.

Andres Pueyo, A. y Redondo, S.(2007). Predicción de la violencia: entre la peligrosidad y la valoración del riesgo de violencia. Dangerousness and violence risk assessment) *Papeles del Psicologo*, 28, (en este mismo número)

Angermeyer, M. C., Cooper, B. y Link, B. (1998). Mental disorder and violence: results of epidemiological studies in the era of de-institutionalization. *Soc Psychiatry Psychiatr Epidemiol, 33*(Suppl), 1-6.

Appelbaum, P. S. (2006). Violence and mental disorders: data and public policy. *American Journal of Psychiatry, 163*(8), 1319-1321.

Appelbaum, P. S., Clark Robins, P. y Monahan, J. (2000). Violence and Delusions: Data from the MacArthur Violence Risk Assessment Study. *American Journal of Psychiatry, 157*(4), 566-572.

Arango, C., Calcedo Barba, A., Gonzalez Salvador, T. y Calcedo Ordoñez, A. (1999). Violence in Inpatients with Schizophrenia: a Prsopective Study. *Schizophrenia Bulletin, 25*(3), 493-503.

Arbach, K. y Andres Pueyo, A. (2006a). *Predictive validity of Structured Clinical Judgment tools in violence risk assessment in a civil psychiatric sample.* Communication presented at the 26th International Congress of Applied Psychology. Atenas, Grecia. 16-21 Julio.

Arbach, K. y Andres Pueyo, A. (2006b). *The validity of the HCR-20 and PCL:SV in predicting inpatient violence in a civil psychiatric sample: a 9 month follow-up study.* Communication presented at the International Association of Forensic Mental Health Services 6th Annual Conference, Amsterdam (Países Bajos)

Arbach, K., Andres Pueyo, A., García-Forero, C., Pomarol Clotet, E. and Gomar, J. (2007). *Frequency and severity changes of violent behavior in psychiatric inpatients*. Communication presented at the 5th European Congress on Violence in Clinical Psychiatry. Amsterdam, Países Bajos. 25-27 de Octubre.

Arboleda-Flórez, J. (1998). Mental illness and violence: an epidemiological appraisal of the evidence. *Canadian Journal of Psychiatry, 43*, 989-996.

Belfrage, H. (1998). Implementing the HCR-20 scheme for risk assessment in a forensic psychiatric hospital: integrating research and clinical practice. *Journal of Forensic Psychiatry, 9*(2), 328-338.

Belfrage, H., Fransson, G. y Strand, S. (2000). Prediction of violence using the HCR-20 a prospective study in two maximum-security correctional institutions. *The Journal of Forensic Psychiatry, 11*(1), 167-175.

Brennan, P. A. y Alden, A. (2006). Schizophrenia and violence: the overlap. En A. Raine (Ed.), *Crime and Schizophrenia: Causes and Cures* (pp. 15-27): Nova Science Publishers, Inc.

Brennan, P. A., Mednick, S. A. y Hodgins, S. (2000). Major mental disorders and criminal violence in a Danish birth cohort. *Archives of General Psychiatry, 57*, 494-500.

Côté, G. y Hodgins, S. (1992). The prevalence of major mental disorders among homicide offenders. *International Journal of Law and Psychiatry, 15*, 88-99.

Dernevik, M., Grann, M. y Johansson, S. (2002). Violent behaviour in forensic psychiatric patients: risk assessment and different risk-management levels using the HCR-20. *Psychology, Crime and Law, 8*(1), 93-111.

Dolan, M. y Doyle, M. (2000). Violence risk prediction. *British Journal of Psychiatry, 177*, 303-311.

Douglas, K. S. (2001). HCR-20 violence risk assessment scheme: Overview and annotated bibliography [on line]. de www.sfu.ca/psychology/groups/faculty/hart.violink

Douglas, K. S., Cox, D. N. y Webster, C. D. (1999). Violence risk assessment: science and practice. *Legal*

and Criminological Psychology, 4, 149-184.

Douglas, K. S., Ogloff, J. R. P. y Hart, S. D. (2003). Evaluation of a model of violence risk assessment among forensic psychiatric patients. *Psychiatric Services, 54*(10), 1372-1379.

Douglas, K. S., Ogloff, J. R. P., Nicholls, T. L. y Grant, I. (1999). Assessing Risk for Violence among Psychiatric Patients: the HCR-20 Violence Risk Assessment Scheme and the Psychopathy Checklist: Screening Version. *Journal of Consulting and Clinical Psychology, 67*(6), 917-930.

Douglas, K. S. y Webster, C. D. (1999). The HCR-20 violence risk assessment scheme: concurrent validity in a sample of incarcerated offenders. *Criminal Justice and Behavior, 26*(1), 3-19.

Douglas, K. S., Yeomans, M. y Boer, D. P. (2005). Comparative validity analysis of multiple measures of violence risk in a sample of criminal offenders. *Criminal Justice and Behavior, 32*(5), 479-510.

Doyle, M., Dolan, M. y McGovern, J. (2002). The validity of North American risk assessment tools in predicting in-patients violent behavior in England. *Legal and Criminological Psychology, 7*, 141-154.

Edens, J. F., Skeem, J. L. y Douglas, K. S. (2006). Incremental validity analyses of the Violence Risk Appraisal Guide and the Psychopathy Cheklist: Screening Version in a civil psychiatric sample. *Assessment, 13*(3), 368-374.

Eronen, M., Angermeyer, M. C. y Schulze, B. (1998). The psychiatric epidemiology of violent behavior. *Soc Psychiatry Psychiatr Epidemiol, 33*(Suppl), 13-23.

Eronen, M., Tiihonen, J. y Hakola, P. (1996). Schizophrenia and homicidal behavior. *Schizophrenia Bulletin, 22*(1), 83-89.

Fazel, S. y Danesh, J. (2002). Serious mental disorder in 23000 prisoners: a systematic review of 26 surveys. *The Lancet, 359*, 545-550.

Grann, M., Belfrage, H. y Tengström, A. (2000). Actuarial assessment of risk for violence: predictive validity of the VRAG and the historical part of the HCR-20. *Criminal Justice and Behavior, 27*, 97-114.

Grassi, L., Peron, L., Marangoni, C., Zanchi, P. y Vanni, A. (2001). Characteristics of violent behavior in acute psychiatric in-patients: a 5 year Italian study. *Acta Psychiatrica Scandinavica, 104*, 273-279.

Hart, S. D., Cox, N. y Hare, D. (1995). *The Hare Psychopathy Checklist: Screening Version (PCL:SV)*. Toronto: Multi Health System Inc.

Hilterman, E. y Andrés Pueyo, A. (2005). *HCR-20. Guía para la valoración de comportamientos violentos.(The HCR-20.Violence risk assessment guide)* Barcelona: Universitat de Barcelona.

Hodgins, S. (1992). Mental disorder, intellectual deficiency, and crime. *Archives of General Psychiatry, 49*, 476-483.

Hodgins, S. (1998). Epidemiological investigations of the association between major mental disorder and crime: methodological limitations and validity of the conclusions. *Soc Psychiatry Psychiatr Epidemiol, 33*(Suppl), 29-37.

Hodgins, S. (2001). The major mental disorders and crime: Stop debating and start treating and preventing. *Journal of Law and Psychiatry, 24*, 427-446.

Hodgins, S., Mednick, S., Brennan, P., Schulsinger, F. y Engberg, M. (1996). Mental disorder and crime. Evidence from a Danish birth cohort. *Archives of General Psychiatry, 53*, 489-496.

Link, B., Andrews, H. y Cullen, F. T. (1992). The violent and illegal behavior of mental patients reconsidered. *American Sociological Review, 57*, 275-292.

Link, B. y Stueve, A. (1994). Psychotic symptoms and the violent/illegal behavior of mental patients compared to community controls. En J. Monahan y H. J. Steadman (Eds.), *Violence and mental disorder* (pp. 137-159). Chicago: University of Chicago Press.

Link, B. y Stueve, A. (1995). Evidence bearing on mental illness as a possible cause of violent behavior. *Epidemiological Review, 17*(1), 172-181.

Maden, A. (2007). *Treating violence: a guide to risk management in mental health*. Oxford, Oxford Univ. Press.

Marzuk, P. M. (1996). Violence, Crime, and Mental Illness. How Strong a Link? *Archives of General Psychiatry, 53*(June), 481-486.

Monahan, J. (1992). Mental disorder and violent behavior. *American Psychologist, 47*(4), 511-521.

Monahan, J. (2002). The MacArthur studies of violence risk. *Criminal Behavior and Mental Health, 12*, S67-S72.

Monahan, J. y Steadman, H. J. (Eds.). (1994). *Violence and mental disorder*. Chicago: University of Chicago Press.

Monahan, J., Steadman, H. J., Appelbaum, P. S., Robbins, P. C., Mulvey, E. P., Silver, E., et al. (2000). Developing a Clinically Useful Actuarial Tool for Assessing Violence Risk. *British Journal of Psychiatry, 176*, 312-319.

Monahan, J., Steadman, H. J., Silver, E., Appelbaum, P. S., Clark Robins, P., Mulvey, E. P., et al. (2001). *Rethinking risk assessment. The MacArthur Study of Mental Disoder and Violence*. New York, USA: Oxford University Press.

Morera, B., Hueso, V. y Martinez, L. (2001). Conductas violentas y enfermedad mental: predicción y abordaje en pacientes hospitalizados.(Violent behaviour and mental illness: prediction and treament approach in inpatients) *Archivos de Psiquiatría, 64*(2), 137-154.

Mossman, D. (2000). Book Review: Evaluating Violence Risk "By the Book": A Review of HCR-20, Version 2 and The Manual for the Sexual Violence Risk-20. *Behavioral Sciences and the Law, 18*, 781-789.

Mullen, P., Burgess, P., Wallace, C., Palmer, S. y Ruschena, D. (2000). Community care and criminal offending in schizophrenia. *The Lancet, 355*, 614-617.

OMS. (2002). *World Report on Violence and Health: Summary*. Génova: World Health Organization.

Pescosolido, B., Monahan, J., Link, B., Stueve, A. y Kikuzawa, S. (1999). The public's view of the competence, dangerousness, and need for legal coercion of persons with mental health problems. *American Journal of Public Health, 89*(9), 1339-1345.

Phelan, J. C. y Link, B. (1998). The growing belief that people with mental illnesses are violent: the role of the dangerousness criterion for civil commitment. *Soc Psychiatry Psychiatr Epidemiol, 33*(Suppl), 7-12.

Rabkin, J. G. (1979). Criminal behavior of discharged mental patients: a critical appraisal of the research. *Psychological Bulletin, 86*(1), 1-27.

Raja, M., Azzoni, A. y Lubich, L. (1997). Aggresive and violent behavior in a population of psychiatric inpatients. *Soc Psychiatry Psychiatr Epidemiol, 32*, 428-434.

Rice, M. E., Harris, G. T. y Quinsey, V. L. (2002). The appraisal of violence risk. *Current Opinion in Psychiatry, 15*, 589-593.

Rojas Marcos,L. (1995). *Las semillas de la violencia.*(*The seeds for violence)* Barcelona. Espasa Calpe

Sanmartin,J. (2004) *El laberinto de la violencia. (The violence labyrnth)* Barcelona Ariel.

Silver, E. (2006). Understanding the relationship between mental disorder and violence: the need for a criminological perspective. *Law and Human Behavior, 30*(6), 685-706.

Skeem, J. L. y Mulvey, E. P. (2001). Psychopathy and community violence among civil psychiatric patients: results from the MacArthur Violence Risk Assessment Study. *Journal of Consulting and Clinical Psychology, 69*(3), 358-374.

Skeem, J. L., Mulvey, E. P., Appelbaum, P. S., Banks, S., Grisso, T., Silver, E., et al. (2004). Identifying subtypes of civil psychiatric patients at high risk for violence. *Criminal Justice and Behavior, 31*(4), 392-437.

Skeem, J. L., Mulvey, E. P. y Grisso, T. (2003). Applicability of traditional and revised models of psychopathy to the Psychopathy Checklist: Screening Version. *Psychological Assessment, 15*(1), 41-55.

Steadman, H. J., Mulvey, E. P., Monahan, J., Clark Robins, P., Appelbaum, P. S., Grisso, T., et al. (1998). Violence by people discharged from acute psychiatric inpatient facilities and by others in the same neighborhoods. *Archives of General Psychiatry, 55*(5), 393-401.

Steadman, H. J., Silver, E., Monahan, J., Appelbaum, P. S., Clark Robins, P., Mulvey, E. P., et al. (2000). A Clasification Tree Approach to the Development of Actuarial Violence Risk Assessment Tools. *Law and Human Behavior, 24*(1), 83-99.

Storr, A. (1991). *La agresividad humana*. Madrid. Alianza Editorial

Strand, S., Belfrage, H., Fransson, G. y Levander, S. (1999). Clinical and risk management factors in risk prediction of mentally disordered offenders... more important than historical data? A retrospective study of 40 mentally disordered offenders assessed with the HCR-20 violence risk assessment scheme. *Legal and Criminological Psychology, 4*(1), 67-76.

Stuart, H. (2003). Violencia y enfermedad mental: una consideración general.(Violence and mental illness: a general consideration) *World Psychiatry, 2*, 121-124.

Stuart, H. y Arboleda-Flórez, J. (2001). A public health perspective on violent offenses among persons with mental illness. *Psychiatric Services, 52*(5), 654-659.

Swanson, J. W., Borum, R., Swartz, M. S. y Monahan, J. (1996). Psychotic symptoms and disorders and the risk of violent behavior. *Criminal behavior and mental health, 6*, 317-338.

Swanson, J. W., Holzer, C. E., Ganju, V. K. y Jono, R. T. (1990). Violence and the psychiatric disorder in the community: Evidence from the Epidemiologic Catchment Area surveys. *Hospital y Community Psychiatry, 41*(7), 761-770.

Swanson, J. W., Swartz, M. S., Borum, R., Hiday, V. A., Wagner, R. y Burns, B. J. (2000). Involuntary out-

patient commitment and reduction of violent behavior in persons with severe mental illness. *British Journal of Psychiatry, 176*, 324-331.

Teplin, L. A. (1990). The prevalence of severe mental disorder among male urban jail detainees: comparison with the Epidemiologic Catchment Area Program. *American Journal of Public Health, 80*(6), 663-669.

Tiihonen, J., Hakola, P., Eronen, M., Vartiainen, H. y Ryynänen, O.-P. (1996). Risk of homicidal behavior among discharged forensic psychiatric patients. *Forensic Science International, 79*, 123-129.

Tiihonen, J., Isohanni, M., Räsänen, P., Koiranen, M. y Moring, J. (1997). Specific major mental disorders and criminality: A 26-year prospective study of the 1966 northern Finland birth cohort. *The American Journal of Psychiatry, 154*(6), 840-845.

Tobeña,A. (2001). *Anatomía de la agresividad humana.(Anatomy of human aggression)* Barcelona. Circulo de lectores.

Waldheter, E. J., Jones, N. T., Johnson, E. R. y Penn, D. L. (2005). Utility of social cognition and insight in the prediction of inpatient violence among individuals with severe mental illness. *The Journal of Nervous and Mental Disease, 193*(9), 609-618.

Walsh, E., Buchanan, A. y Fahy, T. (2002). Violence and schizophrenia: examining the evidence. *British Journal of Psychiatry, 180*, 490-495.

Walsh, E., Gilvarry, C., Samele, C., Harvey, K., Manley, C., Tattan, T., et al. (2004). Predicting violence in schizophrenia: a prospective study. *Schizophrenia Research, 67*, 247-252.

Wallace, C., Mullen, P. y Burgess, P. (2004). Criminal offending in schizophrenia over a 25-year period marked by deinstitutionalizaton and increasing prevalence of comorbid substance use disorders. *American Journal of Psychiatry, 161*(4), 716-727.

Wallace, C., Mullen, P., Burgess, P., Palmer, S., Ruschena, D. y Browne, C. (1998). Serious criminal offending and mental disorder. Case linkage study. *British Journal of Psychiatry, 172*, 477-484.

Webster, C. D., Douglas, K. S., Eaves, D. y Hart, S. D. (1997a). *HCR-20. Assessing risk for violence. Version 2*. Vancouver, Canada: Mental Health, Law, and Policy Institute, Simon Fraser University.

Wessely, S. (1997). The epidemiology of crime, violence and schizophrenia. *British Journal of Psychiatry, 170*(Suppl. 32), 8-11.

Papeles del Psicólogo, 2007. Vol. 28(3), pp. 187-195
http://www.cop.es/papeles

EVIOLENCE AND SEXUAL OFFENDER RECIDIVISM: BASIC RESEARCH AND RISK ASSESSMENT WITH SVR-2

Santiago Redondo Illescas, Meritxell Pérez and Marian Martínez
Universidad de Barcelona

The study of violence and recidivism in sexual offenders is currently an area of special interest in Criminal Psychology. In this article, both the theories and existing knowledge about the etiology and risk factors of sexual aggression and the international and Spanish research which sustains this knowledge is reviewed. The main goal of this study is to introduce an instrument for risk assessment called Sexual Violence Risk-20 (SVR-20). This instrument has been translated and adapted for the Spanish and Hispanic context by the Group in Advanced Studies on Violence (GEAV) of the University of Barcelona. In order to validate this instrument, a pilot study about the predictive accuracy of the SVR-20 has been carried out, using a sample of incarcerated sex offenders from a Spanish prison. The main conclusion of this study is that the SVR-20 is a good instrument for predicting the risk of sexual recidivism.
***Keywords**: sex crime recidivism, risk assessment, risk factors.*

El estudio de la violencia y de la reincidencia de los agresores sexuales constituye en la actualidad un ámbito de especial interés de la Psicología Criminal. En este trabajo se revisan tanto las teorías y conocimientos existentes sobre etiología y factores de riesgo de agresión sexual, como algunas investigaciones internacionales y españolas que sustentan estos conocimientos. Su principal objetivo es la presentación de un nuevo instrumento de predicción en este campo denominado SVR-20: Manual de valoración del riesgo de violencia sexual. Dicho instrumento ha sido traducido y adaptado para el contexto español y latino por el Grupo de Estudios Avanzados en Violencia (GEAV) de la Universidad de Barcelona. Para su validación se ha efectuado un primer estudio piloto sobre la capacidad predictiva del SVR-20 con una muestra de agresores sexuales que cumplieron condena en una prisión española. La conclusión principal de este estudio es que el SVR-20 es un buen instrumento para predecir el riesgo de reincidencia sexual.
***Palabras clave:** Reincidencia delictiva, violencia sexual, valoración del riesgo.*

A particularly complex and problematic field for psychological analysis of antisocial conduct is that of sexual aggression, which usually adopts two main forms: rape and child abuse. Rape victims are usually women known by the aggressors, friends and schoolmates or neighbourhood acquaintances, or also women who are unknown to them. Sexual abuse victims are usually girls and, sometimes, young boys (D'Amora & Burns-Smith, 1999; Malesky & Keim, 2001).

Sexual offences represent only a small portion of crime (around 1% of the reported offences in total) and its authors are usually both young and adult men. However, we know that sexual offence has a high hidden figure and hence we could think that this percentage, would at least double if all offences were known (Bachman, 1998; Fisher, Daigle, Cullen & Turner, 2003; Hart & Rennison, 2003; Terry, 2006).

Correspondence: Santiago Redondo Illescas. *Grupo de Estudios Avanzados en Violencia. Facultad de Psicología. Universidad de Barcelona. Paseig Vall Hebron 171. 08035 Barcelona. España. E-Mail: sredondo@ub.edu*

From a topographical or descriptive point of view, sexual aggressors usually present three types of different but interrelated problems: in their behaviour and in their sexual preferences (which seems obvious), in their broader social behaviour, and in their cognitions ("cognitive distortions") (Berlin, 2000; Echeburúa & Guerricaechevarría, 2000; Marshall, 2001; Redondo, 2002). Hence, the sexual conduct of many aggressors is projected in a deviant manner towards unacceptable sexual objectives, such as minors or the use of violence to force the sexual subjugation of women. That is, they "prefer" antisocial ways of sexual relations which seem to them "more exciting" and they are incapable of "inhibiting" those inappropriate and harmful ways of obtaining pleasure. Some of said antisocial preferences (minors or the use of violence in sexual interaction) have probably been generated and consolidated in the individual due to the repeated association between his sexual arousal (through self-stimulation or other sexual behaviours) and infantile or violent stimuli (real or through pornography or fantasies).

On another hand, the problem gets worse depending on whether the person also has difficulties in maintaining normalized sexual contacts, that is, with adults who freely desire to and consent to engage in such contacts. This lack of adult sexual relations could be due to the fact that an individual has fewer social interaction skills, something which is essential to set up affective communications and propose sexual encounters. Many aggressors (not all) are individuals with very few or nonexistent affective or intimate social interactions in which desired and consented sexual encounters can be found. Parallel to the latter, many sexual aggressors present more general difficulties in communicating with other people. They are individuals with fewer skills for relating, empathizing or for understanding the feelings of others, and they seem anxious or nervous in social situations. All of these deficits provoke greater social withdrawal, both with respect to their group of friends and to their work environment, if they have it. Many sexual aggressors are often solitary people (Terry, 2006).

Sexual offenders also have problems with respect to their way of thinking about their abusive or aggressive behaviour. They usually present a large number of cognitive distortions or assessment errors regarding women and their role in society (e.g., "women must subjugate to the desire of men; it has always been that way"), sexuality (e.g., "despite being forced I am sure she is enjoying it") and the norms and social and legal values with respect to what can and what cannot be done in terms of human sexual behaviour (e.g., "if a child accepts it, why can't I have a sexual relationship with him/her?). These distortions or erroneous beliefs guide his sexual conduct in an illicit and inappropriate manner, and also offer justifications for it.

This multidimensionality makes sexual aggression one of the criminal conducts most resistant to change, therefore those repetitive aggressors who have committed many offences in the past have a high probability of reoffending if all the aforesaid behaviour and thought problems are not treated.

With respect to the etiology of sexual aggression, although there are diverse sexual-aggressor profiles, nowadays a wide consensus exists with respect to a series of trigger elements, such as have been put together in Marshall and Barbaree's theoretical model (1989, 1990). According to this model we should consider the following factors with respect to the origin of sexual aggression:

1. *Biological elements*. In short, these refer to the consideration of two aspects: 1) the existing resemblance between the neuroendocrine mediators of sexual conduct and aggressive behaviour in males, for which the secretion of testosterone plays a decisive role; this implies that through an efficient socialization process the separation between both behaviours with the introduction of the corresponding inhibitions should be learnt, 2) the relative unspecificity that sexual impulse has in humans, needing in all cases the learning of appropriate patterns of behaviour regarding feasible and acceptable partners (adult individuals who consent the encounter), adequate and inadequate contexts, etc.
2. *Failure of inhibitory learning*. Research in Criminal Psychology has shown in general the decreased inhibitory learning (in terms of classical conditioning, with respect to the models of Mowrer and Eysenck) of sexual aggressors and of offenders in general.
3. *Socio-cultural attitudes* favourable or tolerant with sexual aggression. It has been shown that those societies and social groups with more negative attitudes and values towards women have a higher rate of sexual aggressions and rapes (Sanday, 1981; Hollin, 1987).
4. *Violent or child pornography*. Many aggressors and pedophiles view on a regular basis, as an arousal and masturbation mechanism, sexual aggression or child pornography, which consistently reconditions his antisocial excitability.
5. *Proximal facilitory circumstances*. Aggressions are often preceded by emotional states such as prolonged stress, sexual arousal, choleric reactions, or abusive consumption of alcohol.
6. Cognitive distortions regarding sexuality, women, children, etc. acquired by the aggressor throughout his child and juvenile development which help him overcome the internal controls.
7. *Proximal circumstances* of opportunity with a woman or child, depending on the case, and without evident risk of being detected.

SEXUAL AGGRESSORS' RECIDIVISM: BASIC RESEARCH

A generalized belief exists that sexual offenders have an almost certain probability of recidivism. However, sexual aggressors' recidivism as a group is low and it is estimated that on a worldwide level it is around 20% (Lösel, 2002; Quinsey, Rice, & Harris, 1995). (In general the average of offenders' recidivism –not specifically

sexual aggressors-is of about 50%). Nevertheless, the distribution of recidivism is very heterogeneous and fluctuates between those cases of only one known offence, and in the opposite extreme, serial aggressors, who commit dozens of crimes throughout their criminal careers.

In each case, the risk of recidivism-and also the treatment possibilities- are going to depend on the typology of the aggressor in question and, specifically, on the risk factors that converge in each subject (Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2004). Modern research in Criminal Psychology has shown the existence of risk factors which increase the risk and protective or resistance factors which protect the individual decreasing the risk for criminal conduct (among these, the fact of being a first-born child, of being an affectionate person, having high self-esteem and self-control, having had alternative care-givers than the paternal in case of family risk, and having had support models of the same sex– Smith, Visher, & Jarjoura, 1991—). At the same time, these factors have been categorized as *static* (or that cannot be modified) and *dynamic* factors (or modifiable through interventions) (Andrews & Bonta, 2006). The *static* risk factors are usually inherent to the subject or to his past, and therefore of difficult or impossible alteration, while the *dynamic* risk factors consist of habits, values and cognitions, low academic and social status, low self-control, interpersonal conflicts, etc., which can be modifiable to a certain degree through the appropriate interventions.

There are specific risk factors of sexual recidivism which we have classified as well in Table 1 into *static* and *dynamic* predictors according to international research (Andrews & Bonta, 2006; Berlin, 2000; Craissati & Beech, 2003; Groth, 1979; Hanson & Harris, 2000; Hanson & Morton-Bourgon, 2004; Maletzky, 1991; Marshall, 2001; Marshall & Barbaree, 1989; Marshall & Redondo, 2002; Quinsey *et al.*, 1995).

As can be seen in the previous Table, there is a large group of *static* risk factors which, besides young age and the generic factors mentioned, specifically condition the prediction of sexual offenders' recidivism (with known correlations between 13 and 22). Despite all this, the *dynamic* factors also play a decisive role in said recidivism and constitute, in every case, due to their modifiability, the appropriate objectives of treatment programs. While the *static* factors correspond to a great extent to the energizing or motivating elements for aggressions (arousal, deviant behaviour repertoires, etc.), the *dynamic* factors would form part of two of the decisive processes in such aggressions (Farrington, 1996): 1) they give *antisocial directionality* to behaviour, due to the fact that many subjects lack the skills to engage in adult and consented sexual relationships, and 2) they facilitate the *disinhibitory processes* (beliefs, distortions, lack of empathy, etc.) which precipitate the aggression.

Our research team in Spain has performed specific analyses of the characteristics and risk factors of incarcerated sexual offenders (Redondo, Luque & Andrés, under revision). Emphasis has been specially placed on the differences obtained (in a wide group of demographic, delinquent career and clinical risk factors) between sexual aggressors who reoffend and those who do not .From the preceding results, and a synthesis of all the empirical information obtained, what could be the most typical "profiles" of sexual aggressors who reoffend and those who do not are shown in Table 2.

TABLE 1
RISK OF SEXUAL RECIDIVISM PREDICTORS

Static predictors	Dynamic predictors
1. Generic factor: young age 2. Greater number of previous sexual offences 3. Greater number of previous offences in general 4. Criminal versatility (not sexual specialization) 5. Violence in committing previous offences 6. Escalation in the severity of the offences (violence, younger victims) 7. Unknown victims 8. Type of victim: - Female **(.17)** - Male **(.20)** - Children **(.22)** - Adults **(.13)** 9. The offence has not been the result of some circumstantial specific stressor 10. Evidence of severe psychopathology (psychosis) or previous reclusion in psychiatric institutions **(.18)** 11. Excentric actions, rituals, recurrent deviant fantasies, use of pornography 12. Presenting several paraphilias (abuse, rape) 13. Psychopathological profile (PCL) (Factor I: Psychopathic traits) **(.18)**	1. Persistent denial or rationalization of the crime 2. Low/null motivation to follow a treatment 3. Low interpersonal competency and, in general, factors of criminogenic need (cognitions, delinquent values and habits, delinquent friends, drug dependency) 4. High arousal with deviant stimuli and low arousal with adequate stimuli 5. Low control of deviant behaviour 6. Lack of partner **(.22)** 7. Psychopathic profile (Factor II: Antisocial conduct, except that corresponding to the past)

Source: *Our own elaboration based on several authors. The presented correlations are from Quinsey et al. (1995)*

As can be seen, those sexual aggressors assessed in the study who did not reoffend present the following personal and criminal career characteristics: they committed their first sexual crime with a sentence at an average age of 34; they had a criminal history of 1-2 condemned sexual offences and 3 offences in total; their previous criminal career had lasted around 3 years; most (3/4 of the total) had been in prison only once and their reclusion had a mean duration of 5.5 years; they were released from prison at the age of 40; in general they have stable work trajectories; 60% of them have children; they usually abuse alcohol; their victims are both adult girls and girls younger than 14 and in half of the cases known by them previously; only 3.7% present a psychopathic profile, and have lower scores in all items of the risk scale (different victims, paraphilias, few personal skills, deviant sexual arousal, unstable life style), with a total risk score of 13,19 points; lastly, nearly half of those who have not reoffended (46,5%) had received specific treatment for sexual aggression.

TABLE 2
DESCRIPTIVE PROFILES FOR SEXUAL REOFFENDERS AND NONREOFFENDERS

Nonreoffender Profile	Reoffender Profile
Fisrt sexual offence with sentence at 34 years of age	First sexual offence with sentence at 25 years of age
Convicted for 1-2 sexual crimes and 3 in total	Convicted for 4 sexual crimes and 7 in total
Previous criminal career of 3 years	Previous criminal career of 9 years
3/4 only in prison once and reclusion of 5.5 years	Several times in prison and reclusion of 8 years
Released at age 40	Released at age 33
Stable work trajectories	More than half unstable work trajectories
More than 60% have children	Less than 40% have children
Alcohol abusel	Alcohol abuse and 1/3 other drugs
Victims are older girls or younger than 14 and in half of the cases previously known	Victims are unknown women older than 14 years of age
Psychopathy (PCL): 1/5 score in Factor II (antisocial conduct) and 3,7% present *psychopathic profile*	Psychopathy: more than 1/2 score in Factor II (antisocial conduct) and 38,5% present a *psychopathic profile*
Risk: lower scores in all items: -Different victims -Paraphilias -Few personal skills -Deviant sexual arousal -Unstable life style Their total risk score is 13.19	Risk: higher scores in all items Different victims -Paraphilias -Few personal skills -Deviant sexual arousal -Unstable life style Their total risk score is 45.07
46.5% have received treatment	**14.3% have received treatment**

On their part, those who reoffended committed their first condemned sexual crime at a younger age (at 25); they had been condemned for a mean of 4 sexual offences and 7 offences in total (here sexual and not sexual crimes are included); their previous criminal careers had a mean duration of 9 years, almost double that of those who did not reoffend; they had been imprisoned multiple times, with an average reclusion of 8 years; they were released from prison at a younger age, around 33; more than half of them had had unstable work trajectories; less than 40% have children; although alcohol consumption is notable, one-third preferably consume other drugs; their victims are unknown girls who are older than 14; a high percentage, 38.5%, present a psychopathic profile, and score higher in all items of the risk scale, with a total score of 45.07 points in said scale (three times the score of the nonoffenders); lastly, only 14.3% had received treatment.

Hence, among the characteristics which distinguish between subjects who re-offend and those who do not we find multiple *static* risk factors, or non modifiable, which include aspects regarding their own individuality (e.g., younger age, high psychopathic profile, high sexual excitability) or their past personal experience (e.g., longer duration of criminal career, unstable work trajectories, unknown victims profile). In addition to all these essentially *static* factors there is also a relevant difference between the group of the nonreoffenders and that of the reoffenders with respect to the percentage who had received treatment. Such difference points to a series of *dynamic* factors such as communication skills, emotional or empathy development, which constitute objectives of the treatment applied to sexual aggressors. As has already been commented, almost half of those who did not reoffend (46.5%) had received treatment while only 14.3% of those who reoffended had had it.

ASSESSMENT OF THE RISK OF RECIDIVISM USING THE SVR-20

Nowadays, a strong theoretical and technical development is taking place in the field of violence risk assessment (Mandeville-Norden & Beech, 2006). An emerging field is the risk prediction of recidivism that sexual delinquents could present in the future, whether they have already received psychological treatment or not (Craig, Browne & Stringer, 2004; Olver, Wong,

Nicholaichuk & Gordon, 2007). In modern societies, sexual violence, and with greater relevance the recidivism of sexual aggressors, constitute social problems which are the focus of media attention and which worry citizens as well as public authorities. Forensic professionals who work with sexual aggressors, at the service of court orders or in prison, are confronted with a growing pressure to efficiently assess the risk levels of such delinquents and to perform the decision-taking process as transparently as possible (Craig, Beech & Browne, 2006). A sexual delinquent considered to be a high-risk subject would require much stricter community control and supervision than subjects considered to be of low-risk for sexual aggression recidivism. For this reason, a good prediction of sexual recidivism is necessary for both avoiding future victims and to reduce the institutional costs of these subjects and, therefore, maximize the available resources for the assistance of individuals who require it, offering them efficient treatment programs for reducing the risk of recidivism (Nunes, Firestone, Wexler, Jensen & Bradford, 2007).

Today in Spain, there is not a systematic and generalized use of instruments for predicting the risk of sexual recidivism even though, as international research shows, they can be extremely useful for professionals of forensic practice. However, at an international level several instruments for the prediction of the risk of sexual violence are being developed and applied. Among the most used we find the *Sexual Violence Risk-20* (SVR-20) (Boer, Hart, Kropp & Webster, 1997), whose Spanish version is called "*SVR-20: Manual de valoración del riesgo de violencia sexual*". This guide for risk assessment has been translated and adapted to the Spanish penitentiary population by Martínez, Hilterman & Andrés Pueyo (2005), from the *Group of Advanced Studies on Violence* (GEAV), at the University of Barcelona. It consists of a protocol for assessing the risk of sexual violence of adult delinquents based on 20 items regarding both the *static* and the *dynamic* risk factors.

The items that form part of this guide have been selected taking into consideration empirical research and clinical practice of experts in the field of risk factors for sexual violence. The expression "risk factors" is used to refer to those personal or social elements and variables whose presence make the maintenance of the subject's delinquent activity more probable or, on the other hand, increase his risk for crime. As previously mentioned, a *static* risk factor (such as age or delinquent career) is a historical variable that, although it could be useful for assessing the risk of the subject, it is not susceptible to change. On the other hand, *dynamic* risk factors (such as thought distortions, drug abuse, solitude or sexual motivation) are variables which can be potentially changed through psychological interventions like, for example, a treatment program (Craig, Browne & Stringer, 2003; Olver *et al.*, 2007). Specifically, each item of the SVR-20 assesses information about the individual which could constitute a *static* or *dynamic* risk factor for his future behaviour. The risk assessment by a forensic expert is performed using a standardized list of factors which finally allows us to adopt a global risk judgement for an individual in a given moment.

The 20 sexual violence risk factors which configure this protocol are structured in three sections:

1. Psychosocial functioning, which incorporates risk factors 1-11. It includes in the first place, two risk factors with respect to the psychosexual functioning of the individual:
   1) The possible presence of *sexual deviance* (that is, a diagnosis of paraphilia, or an abnormal and dysfunctional sexual arousal pattern) and,
   2) Having been a *victim of abuse in infancy*.

In addition, four risk factors related to the psychological functioning of the person:

3) *Psychopathy*, assessed through the *Psychopathy Checklist-Revised* (PCL-R) or its abbreviated version *Psychopathy Checklist-Short Version* (PCL-SV),
4) *Severe mental disorder* (presence of psychosis, mania, mental retardation or severe neuro-psychological disability),
5) *Abuse of toxic substances* (including alcohol abuse, abuse of drugs prescribed by doctors and illicit drugs), and
6) *Suicide ideation or homicide* (includes impulses, images and verbalized intentions of hurting oneself or others).

The two following risk factors indicate if there has been a failure in the adoption of two important social roles:

7) Problems in establishing and maintaining an intimate or stable relationship with a partner, and
8) *Problems in the acquisition and maintenance of a stable job.*

Lastly, three risk factors are included which indicate the person's predisposition towards antisocial behaviour in general:

9)Antecedents of non-sexual violent behaviour,
10) *Antecedents of non-violent offences and*
11) Failure in previous supervision measures (that is, possible non-compliance of measures or obligations imposed by the courts or justice services, for example, an exit permit, probation, etc).

2. *Sexual offences,* which groups seven items related with previous sexual violence:
12) *the frequency of severe sexual offences* (takes into account both the lapse of time between crimes and the risk of the delinquent behaviours),
13) *diverse sexual typologies* (makes reference to the variety of victims as well as to the diversity in the illicit sexual conducts committed),
14) severity of the physical or psychological harm caused to the victim of the sexual aggressions,
15) *utilization of arms or death threats and,*
16) *progression in the frequency or intensity of offences.*

Finally, two risk factors are considered to be linked to the psychological aspects of sexual violence:
17) extreme *minimization or denial of sexual aggressions*, and
18) *attitudes which support or tolerate sexual aggressions.*

3. *Plans for the future*, section which includes two items which assess the life projects of the subject:
19) assesses if the individual has a tendency to make *unrealistic plans for the future* or *tries to avoid any project for the future* and,
20) assesses if a negative attitude towards intervention exists, that is, if the individual is pessimistic, resists or does not cooperate with the treatment or supervision programs.

For the rating and completion of each item of the SVR-20 it is necessary to use all available sources of information about the subject gathered in an exhaustive data recollection process. The SVR-20 is not a test or a questionnaire, it is a protocol of hetero-evaluation which assesses each subject based on the available information supplied by him as well as that supplied by other external sources. The basic sources of information which are usually used are the following: a) interviews, b) technical reports by other professionals (psychologists, psychiatrists, jurists, criminologists, educators, pedagogues, teachers, etc.), and c) records about the subject (legal, penitentiary, clinical histories, computer files, etc.).

The clinical coding (*vs.* actuarial or of research) of the SVR-20 items is performed on an ordinal scale with three possible categories (N/?/Y), depending on the perceived degree of certainty regarding whether the risk factors are present or have been in some moment of the person's past. A coding of N (no) indicates that we cannot assure that the risk factor is present; if the coding is an interrogation (?) it means that there is some suspicion (but not certainty) that the risk factor is present, and a Y is assigned (yes) it means that the risk factor is present or has been previously present. As a synthesis of the evaluation, a global risk assessment for sexual violence should be established for each subject as Low, Moderate or High.

This instrument does not allow us to linearly add the risk factors present in an individual in order to reach a final risk assessment appropriate for every case. Although it is reasonable to conclude that the larger the number of risk factors present, the higher the risk for sexual violence, it should be prudent as the global risk would probably depend on which factors combine in each subject, and not simply on the sum of these. Nevertheless, with respect to future research, it would be desirable to establish cut points which would guide the decision taking process of experts in relation to the assessment using the SVR-20.

RESEARCH ON THE SVR-20

Diverse research studies are been developed by the *Group of Advanced Studies on Violence* (GEAV) and other researchers to explore the functioning of the SVR-20 in the Spanish population. In one of these studies, Pérez, Redondo, Martínez, García and Andrés (in press) have investigated the accuracy of the SVR-20 in the prediction of recidivism in sexual aggressors. For this aim, the instrument was completed in a retrospective but blind manner (that is, the assessors did not know the empirical recidivism rate of the subjects throughout a follow-up period of four years) for a group of 163 sexual aggressors who had completed a prison sentence. The objective of this study was to contrast the sexual recidivism predicted by the SVR-20 with the real recidivism of the subjects and, this way, estimate the rate of accurate and inaccurate predictions of said instrument.

As has been described in the previous section, the codification of the SVR-20 is performed using a scale with three categories (N/?/Y). This system of scoring is the one the authors of the instrument recommend (Boer *et al.*, 1997) and is conveniently adapted to the necessities of

forensic professionals, who are its main users. Nevertheless, for research purposes, it is possible to complete the SVR-20 in an actuarial way, that is, assigning a numeric value (0,1,2) to each item according to an ordinal scale. This is how this study has been done, which has allowed us to obtain a numeric global score for each subject and, therefore, perform statistical analyses with the information obtained.

The capacity of the SVR-20 to predict sexual recidivism was analyzed using logistic regression statistical technique. This method allows us to estimate the probability of recidivism (yes/no) as a function of the score of each subject on the SVR-20 and, this way, classify these subjects into two groups, reoffenders and nonreoffenders. The variable recidivism has been defined here as the incarceration of the subject for a new offence. In the sample studied, 128 subjects (78.5%) did not offend again, 24 subjects (14.7%) committed a new sexual offence and 11 subjects (6.7%) went back to committing a non-sexual offence. These figures are close to the data obtained from international research which estimate that 20% of sexual aggressors will commit a new crime in a follow-up period of 5 years (Garrido, Stangeland & Redondo, 2006; Hanson, 2005, Lösel, 2002).

The data obtained in this study show that the SVR-20 obtains 79.9% of correct classifications of the subjects who do not reoffend and 70.8% of correct classifications of the subjects who reoffend. The social meaning of these results is that it seems easier to identify those cases who probably will not reoffend than those who probable will. One of the most relevant difficulties in the field of sexual violence prediction is the problem of *low base rates* (Redondo, 2006). When a phenomenon, such as is the case with sexual recidivism, has a low prevalence rate, its prediction becomes more difficult than for phenomena with higher prevalence rates. Sexual violence has very striking effects and very severe consequences, but, nevertheless, it is still a statistically infrequent phenomenon and, therefore, difficult to predict (Garrido, Stangeland & Redondo, 2006; Brown, 2005).

In a complex and multifactorial problem as is the case of criminal behaviour, an average rate of correct predictions of 78.5%, using a prediction instrument which is still under development, is promising although relative, and perhaps it could be improved in the future. On the other hand, we will highlight the predictive role that the variable "having received psychological treatment" had in this study, which notably improved the prediction of sexual recidivism. Specifically, those subjects who had received treatment had better prognosis of no recidivism than those who had not received it or had rejected it.

Nevertheless, these results allow us to conclude that, even though the official frequency of sexual recidivism is low, if specific variables and proper prediction instruments are used, the prediction of sexual violence obtains rates of correct predictions which stand out. In sum, the main conclusion of this study is that the *Sexual Violence Risk-20 (SVR-20)* can be a good technical aid in the prediction of the risk of sexual recidivism.

CONCLUSIONS

Research on sexual aggression and its recidivism has generated diverse findings which are useful for the scientific explanation of these phenomena as well as for other professional applications. In the first place, international research on the etiology of sexual aggression supports Marshall and Barbaree's theoretical model (1989, 1990) for explaining the triggers and the origin of said aggression. In second place, basic research in Criminal Psychology has seen the influence of risk factors, both *static* and *dynamic*, on the increase of recidivism in sexual offenders. A specific study conducted in Spain by Redondo, Luque & Andrés (under revision), has formulated and explored a multivariable model of the explanatory factors for sexual recidivism. This model suggests that two variables, one *static* as is the variable *Irresponsible* on Hare's psychopathic scale, and another *dynamic* which corresponds to the *Treatment* of the subjects, accurately classify 60% of the cases of sexual recidivism and 96.1% of the cases of sexual nonreoffenders (with an average correct classification of 92.9%). Although this model is only tentative and provisional, when it comes to predicting the risk for criminal behaviour, it is psychologically evocative of the close existent link between some aspects of the subject's personality ("irresponsible"/"responsible") and the therapeutic changes derived from treatment.

The research conducted by the *Group of Advanced Studies on Violence* (GEAV) shows a good discriminating capacity of the *Sexual Violence Risk-20 (SVR-20)* for the detection of those subjects with a greater probability of sexual recidivism. However, in this study we have worked with some shortage of information, a limitation which is not infrequent in retrospective designs. All considered, the good results obtained in this study allow us to initially consider that the SVR-20 can be very useful in improving

predictions of sexual aggression. Future research should solve the methodological problems outlined here and assess the predictive validity of the SVR-20 using longitudinal designs which allow for a more exhaustive recollection of the necessary information for item completion.

Acknowledgements: This work has been carried out within the framework of the development of research projects SEC2001-3821-C05-01/PSCE and of the Ministry of Education and Science, Government of Spain.

REFERENCES

Andrews, D., & Bonta, J. (2006). *The Psychology of Criminal Conduct* (4ª ed.). Cincinnati (Estados Unidos): Anderson Publishing Co.

Bachman, R. (1998). The factors related to rape reporting behavior and arrest: New evidence from the National Crime Victimization Survey. *Criminal Justice and Behavior, 25,* 8-29.

Berlin, F.S. (2000*). The Etiology and Treatment of Sexual Offending. En D. Fishbein: The Science, Treatment, and Prevention of Antisocial Behaviors* (cap. 21). Kingston, New Jersey: Civic Research Institute.

Boer, D.P, Hart, S., Kropp, P.R., & Webster, Ch.D. (1997). *Sexual Risk Violence-20*. Lutz, Florida: Psychological Assessment Resources, Inc.

Brown, S. (2005). *Treating Sex Offenders: An introduction to the sex offender treatment programmes.* Devon (UK): William Publishing.

Craig, L.A., Beech, A., & Browne, K.D. (2006). Cross-Validation of the Risk Matrix 2000 Sexual and Violent Scales. *Journal of Interpersonal Violence, 21(5),* 612-633.

Craig, L.A., Browne, K.D., & Stringer, I. (2003). Risk Scales and Factors Predictive of Sexual Offence Recidivism. *Trauma, Violence & Abuse, 4,* 45-69.

Craig, L.A., Browne, K.D., & Stringer, I. (2004). Comparing Sex Offender Risk Assessment Measures on a UK sample. *International Journal of Offender Therapy and Comparative Criminology, 48(1),* 7-27.

Craissati, J. & Beech, A. (2003). A review of dynamic variables and their relationship to risk prediction in sex offenders. *Journal of Sexual Aggression, 9* (1), 41-55.

D'Amora, D., & Burns-Smith, G. (1999). Partnering in response to sexual violence: How offender treatment and victim advocacy can work together in response to sexual violence. *Sexual Abuse: A Journal of Research and Treatment, 11,* 293-304.

Echeburúa, E. & Guerricaechevarría, C. (2000). *Abuso sexual en la infancia: víctimas y agresores. Un enfoque clínico* (Sexual abuse in childhood: *victims and aggressors. A clinical approach).* Barcelona: Ariel.

Farrington, D.P. (1996). The explanation and prevention of youthful offending. En P. Cordelia y L. Siegel (eds.) *Readings in contemporary criminological theory*. Boston: Northeastern University Press.

Fisher, B. S., Daigle, L. E., Cullen, F. T., & Turner, M. G. (2003). Reporting of sexual victimization to the police and others: Results from a national-level study of college women. *Criminal Justice Behavior*, 30, 6-38.

Garrido, V., Stangeland, P., i Redondo, S. (2006). *Principios de criminología (Principles of criminology)* (3a ed.). Valencia: Tirant lo Blanch.

Groth, A. (1979). *Men who rape*. N.Y.: Plenum Press.

Hanson, R. K., & Bussière, M. T. (1998). Predicting relapse: A meta-analysis of sexual ofender recidivism studies. *Journal of consulting and Clinical Psychology, 66(2),* 348-362.

Hanson, R.K., & Harris, A. J. R. (2000). Where should we intervene ? Dynamic predictors of sex offense recidivism. *Criminal Justice and Behavior, 27,* 6-35.

Hanson, R. K., & Morton-Bourgon, K. (2004). *Predictors of Sexual Recidivism: An Updated Meta-Analysis.* Ottawa, Canada: Public Safety and Emergency Preparedness Canada.

Hanson, R.K. (2005). The characteristics of persistent sexual offenders: a meta-analysis of recidivism studies. *Journal of Consulting and Clinical Psychology, 73(6),* 1154-1163.

Hart, T. & Rennison, C. (2003). *Reporting Crime to the Police.* Washington DC: U.S. Department of Justice, Bureau of Justice Statistics.

Hollin, C.R. (1987). Sex roles in adolescence. En D.J. Hargreaves y A.M. Colley: *The psychology of sex roles* (pp. 176-197). Washington, DC: Hemisphere Publishing Corp.

Lösel, F. (2002). ¿Sirve el tratamiento para reducir la reincidencia de los delincuentes sexuales? (Does treatment to reduce recidivism in sexual offenders work?) A Redondo, S. (Coord.), *Delincuencia sexual y sociedad.*(*Sexual delinquency and society*) Barcelona: Ariel.

Malesky, A., & Keim, J. (2001). Mental health professionals' perspectives on sex offender registry

Web sites. *Sexual Abuse: A Journal of Research and Treatment, 13,* 53-63.

Mandeville-Norden, R., & Beech, A.R. (2006). Risk assessment of sex offenders: The current position in the UK. *Child Abuse Review, 15,* 257-272.

Marshall, W.L. (2001). El tratamiento y su eficacia.(Treament and its efficacy) En W.L. Marshall: *Agresores sexuales (Sexual aggressors)* (Cap. 4, pp. 121-156). Barcelona: Ariel.

Marshall, W. L. & Barbaree, H. E. (1990). Outcome of comprehensive cognitive-behavioral treatment programs. In W. L. Marshall, D. R. Laws, & H. E. Barbaree (Eds.), *Handbook of sexual assault* (pp. 363-385). New York: Plenum Press.

Marshall, W. L. & Barbaree, H. E. (1989). Sexual violence. En K. Howells and C. R. Hollin (Eds.), *Clinical approaches to violence* Chichester: Wiley.

Marshall, W.L. & Redondo, S. (2002). Control y tratamiento de la agresión sexual. (Control and treatment of sexual agresión) En S. Redondo, *Delincuencia sexual y sociedad (Sexual delinquency and society)*(pp. 301-328). Barcelona: Ariel.

Martínez, M., Hilterman, E., & Andrés Pueyo, A. (2005). *SVR-20 Manual de Valoración del Riesgo de Violencia Sexual.(Sexual Violence Risk-20, SVR-20)* Barcelona: Publicaciones Universitat de Barcelona.

Nunes, K.L., Firestone, P., Wexler, A.F., Jensen, T.L., & Bradford, J.M. (2007). Incarceration and recidivism among sexual offenders. *Law and Human Behavior, 31,* 305-318.

Olver, M.E., Wong, S.C.P., Nicholaichuk, T., & Gordon, A. (2007). The Validity and Reliability of the Violence Risk Scale-Sexual Offender Version: Assessing Sex Offender Risk and Evaluating Therapeutic Change. *Psychological Assessment, 19(3),* 318-329.

Pérez-Ramírez, M., Redondo, S., Martínez-García, M., García-Forero, C., & Andrés, A. (en prensa). Predicción de riesgo de reincidencia en agresores sexuales. (in press) (Recidivism risk prediction in sexual aggressors) *Psicothema*

Quinsey, V.L. Rice, M.E. & Harris, G.T. (1995). Actuarial prediction of sexual recidivism. *Journal of Interpersonal Violence,* 10(1), 85-105.

Redondo, S. (Agosto, 2006). *Crime control through the treatment of offenders.* Conference given at the 6th Annual Conference of the European Society of Criminology, Tubingen, Alemania.

Redondo, S. (2002). Delincuencia sexual: mitos y realidades.(Sexual Delinquency: myths and reality) En S. Redondo (coord.), *Delincuencia y sociedad (Delinquency and society)* (pp. 35-52). Barcelona: Ariel.

Sanday, P.R. (1981). The socio-cultural context of rape: a cross-cultural study. The J. of Social Issues, 37, 5-27.

Smith, D.A.; Visher, C.A. & Jarjoura, G.R. (1991). Dimensions of delinquency: Exploring the correlates of participation, frequency, and persistence of delinquent behavior. *Journal of Research in Crime and Delinquency,* 28(1), 6-32.

Terry, K. J. (2006). *Sexual offenses and offenders: Theory, practice, and policy.* Belmont, CA: Thomson Wadsworth.

Papeles del Psicólogo, 2007. Vol. 28(3), pp. 196-204
http://www.cop.es/papeles

ADOLESCENTS AND INFORMATION AND COMMUNICATIONS TECHNOLOGIES: INTERNET, MOBILE PHONE AND VIDEOGAMES

Montserrat Castellana Rosell, Xavier Sánchez-Carbonell, Carla Graner Jordana and Marta Beranuy Fargues
Universidad Ramón LLull (URL)

Information and Communications Technology (ICT) is generating profound changes in our society. Since its influence is particularly notable in adolescents, it becomes essential to describe possible maladjustments in order to assess the impact on psychosocial development, especially the processes of socialization and acquisition of personal identity. Likewise, it is clearly important to involve socializing agents –as significant others– in prevention, given their proven influence on adolescents' use of ICT, particularly Internet, mobile phones and videogames. Some preventive guidance is offered. In conclusion, we stress the need to define diagnostic criteria for addictive behaviour and to promote healthy habits, especially in adolescence.
Key words: *ICT, adolescents, pathological use of Internet, mobile phone, videogames, addiction, behavioural addictions.*

Las Tecnologías de la Información y la Comunicación (TIC) generan profundos cambios en nuestra sociedad. Como esta influencia es especialmente notable en los adolescentes, se hace imprescindible describir posibles desadaptaciones para evaluar el impacto en el desarrollo psicosocial, concretamente en el proceso de socialización y adquisición de la identidad personal. Así mismo no cabe duda de la importancia de implicar en la prevención a los agentes socializadores –en tanto que personas significativas– porque está demostrada su influencia en los usos que hace el adolescente de las TIC, especialmente de Internet, móvil y videojuegos. Se proporcionan orientaciones preventivas. Se concluye haciendo hincapié en la necesidad de definir criterios diagnósticos sobre el comportamiento adictivo y promoción de hábitos saludables, especialmente en la adolescencia.
Palabras clave: *TIC, adolescentes, uso patológico de Internet, móvil, videojuegos, adicción, adicciones conductuales.*

Today's society is developing within a rapidly-changing world, in an era of transformations and in a transitional period of adaptation to new technologies. Internet, mobile phones and videogames play a significant role in the socialization process, influencing behaviours and attitudes (Levis, 2002). Psychology, as a science and as a professional practice, cannot remain indifferent to this transformation (Saldaña, 2001).

In this context we are seeing the emergence of a new type of behavioural maladjustment arising from the spread of Information and Communications Technology (ICT). Although its tools were created as technologies for informing and communicating, their very design makes them liable to weaken one's capacity for control, a lack of which can lead, in conjunction with other personal and environmental factors, to the onset of addictive behaviour (Saldaña, 2001). Neither the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000) nor the International Classification of Diseases (World Health Organization, 1992) recognizes behavioural addictions as mental disorders, with the exception of pathological gambling, which falls within the category of impulse-control disorders. Exacerbating this situation is the lack of consensus on the terms used to designate these phenomena. Authors speak variously of *internet addiction* (Young, 1998), *internet addiction disorder* (Grohol, 2005; Simkova & Cincera, 2004), *compulsive internet use* (Black, Belsare & Schlosser, 1999; Meerkerk, Van den Eijnden & Garretsen, 2006), *pathological internet use* (Davis, 2001), *problematic internet use* (Shapira & cols., 2000; Shapira & cols. 2003), and *unregulated internet usage* (LaRose, Lin & Eastin, 2003), to mention a few of the terms most widely employed. However, the use of ICTs

demands greater attention, particularly if it causes problems or interferes with everyday life, and most especially in relation to children and adolescents.

But ICTs are present in all areas of scientific, cultural and social reality, and constitute an essential element in the functioning of our everyday life. Adolescence is a stage that merits special attention as regards its relationship with ICTs not only because it is a particularly sensitive time of life in general, but also because adolescents are highly influenced by their social context and because these technologies are highly salient in their lives. Fascinated by

Correspondence: Montserrat Castellana Rosell. *FPCEE Blanquerna. Universidad Ramón LLull (URL). C/Císter 34. 08022 Barcelona. España. E-mail: montserratcr@blanquerna.url.edu*

Internet, mobile phones and videogames, teenagers have found in them an extraordinary medium for relationships, communication, learning, satisfaction of curiosity, leisure and entertainment. This has gradually led to ICTs becoming an important and indeed essential element in their lives (Machargo, Luján, León, López & Martín, 2003).

BEHAVIOURAL AND TECHNOLOGICAL ADDICTIONS

The study of behavioural addictions is an emerging phenomenon for a variety of reasons. First of all, there is a growing tendency to consider a range of behaviours in terms of addiction –behaviours as diverse as shopping, work, sex or gambling (Alonso-Fernández, 2003; Echeburúa, 1999). Secondly, understanding the characteristics of behavioural addictions can help to us to better understand the psychology of chemical addictions. And thirdly, technological evolution involves a period of adaptation to new forms of acquiring information and of communicating that can generate more or less permanent psychological disorders or maladjustments. Griffiths (1997) understands technological addictions as those which involve man-machine interaction, and divides them into passive (such as television) and active (Internet, mobile phones and videogames).

The diagnosis of ICT addiction is made on the same principle as that of addictions to substances. Three nuclear symptoms are identified (Echeburúa, 1999; Griffiths, 2000; Washton & Boundy, 1991):

- Inability to exercise control and powerlessness. The behaviour is carried out despite attempts to control it, and cannot be stopped once begun.
- Psychological dependence. Includes desire, anxious impatience, craving and attentional polarization or focalization (the activity takes on paramount importance, dominating thoughts and feelings).
- Harmful effects in different contexts for the person concerned (intrapersonal conflict: subjective feelings of distress) and/or their family and social environment (interpersonal conflict: work, study, leisure, social relationships, etc.).

The commonest non-essential symptoms are: a) Tolerance and withdrawal symptoms; b) Modification of mood. Increasing feeling of tension that immediately precedes onset of the behaviour. Pleasure or relief during the behaviour. Agitation or irritability if the behaviour is not possible; c) Euphoria and "trance" during the activity in question; d) Denial, concealment and/or minimization/understatement; e) Feelings of guilt and reduction of self-esteem; and f) Risk of relapse and of restoration of the addiction

Below we consider a series of symptoms frequently found in adolescents who spend many hours on the Internet (Charlton, 2002; Davis, 2001; Echeburúa, 1999; de Gracia, Vigo, Fernández & Marcó, 2002; Greenfield, 1999; Kandell, 1998; Kubey, Lavin & Barrows, 2001; Morahan-Martin & Schumacher, 2000; Sandoz, 2004; Suler, 2004; Viñas & cols., 2002).

A notable indicator is that the intensity of the symptoms increases gradually. These adolescents spend long hours connected and can lose their sense of time, even though we cannot actually define a time limit that differentiates safe use from addictive use. They are incapable of interrupting the connection ('one more minute', 'coming now'); they connect even when they were not intending to, offering various excuses, or they connect earlier and earlier, and for longer and longer periods. In this context friends and families begin to make comments, resulting in denial or minimization of the connection time, concealment of its true extent. They also neglect their appearance, lose sleep and change their eating patterns. Likewise, it can be seen how Internet is used for obtaining immediate satisfaction and an escape from problems. Being online gives such users an intense sense of intimacy, and they seek euphoria, a 'high' or a trance-like state through the Web.

Everything revolves around virtual reality. The Web dominates their life, becoming the focus of all their attention (Young, 1999). School and academic work and life can be severely affected (academic failure, dropping out, etc.), and they may resort to petty theft in order to purchase items and credits for games such as *Habbo Hotel* or *Everquest*. Guilt feelings appear, and self-esteem can fall. Adolescents may consider the Internet as the only place they can feel good, but in the long run they become lonely, with a reduction in psychological wellbeing (Young, 1998).

In order to recover the initial excitement, and given a tolerance effect, these users resort to tricks such as increasing the number of conversations open in a chat. Furthermore, physical and psychological withdrawal symptoms can be observed (mood changes, irritability, impatience, distress, sadness, anxiety) when they are obliged to come off the Internet, cannot connect, are finding the connection slow or fail to find who or what they are looking for (Griffiths, 2000). In some cases,

symptoms of "cybercrisis" can be observed, such as agitation or moving the hand as though to type despite not being at the computer (Wieland, 2005).

ADOLESCENCE AND NEW TECHNOLOGIES

Adolescence is a psychological, biological, social and cultural phenomenon. It is the period in which individuals develop towards the acquisition of psychological maturity through the construction of their personal identity (Castellana, 2003; 2005). It is also a period that is important for its very developmental characteristics: omnipotence, tendency to seek the cause of one's problems in others (blaming external factors), little life experience, difficulty in recognizing subtle addictions and need to normalize risk behaviours.

Such characteristics make adolescents highly susceptible to experiencing addictive behaviours or other psychological disorders related to the use of ICT applications. In a sample of 3237 Norwegian adolescents aged 12 to 18, 1.98% fulfilled criteria of addiction and 8.66% those of high-risk use (Johansson & Götestam, 2004). Although for Matute (2003, p. 66) it makes more sense to talk about "inexperienced users" than about "possible addicts", it should be borne in mind that adolescents' need to communicate and to have access to information (currently pronounced, heterogeneous and ever-changing) and the fact that they are always inexperienced users increases their vulnerability. Whilst more experienced users devote more time to e-mail, work-related activities and news and information sources, these novice users spend more time in chats and accessing other leisure services (Matute, 2003).

Adolescents and Internet

The Internet can be defined as a web of webs for sharing data and resources via computer (Madrid, 2000). The decrease in connection charges, technological improvements and a massive rise in the number of computers in the home have led to an exponential increase in numbers of Internet users; therefore, it is becoming more and more important to consider users' responses and to assess some of the Internet's effects on their behaviour (Chamarro & Hernández, 2005).

Adolescents' use of the Internet is highly relevant. Time spent on the Web differs according to age; moreover, there is a tendency for girls to spend more time connected than boys (Fundación Catalana per a la Recerca, 2004). As regards connection context, the majority access the Internet from home (78.4%), in half of the cases using their own computer and Internet service; the rest connect from school (26%), from a library (8%) or from a cybercafé (5%) (Estallo, 2000). As a result of "chats", 32% of minors have given out their telephone number, 17% have met someone in person, and 34% have "felt uncomfortable" on the Internet at some time (Fundación Catalana per a la Recerca, 2004).

Regarding the reasons why adolescents connect to Internet, it has been observed that these revolve around the possibility of linking up with their peer group regardless of physical distance, as well as that of talking about subjects that would be more difficult to broach face-to-face. The disinhibiting effect of anonymity and the absence of eye-to-eye contact permits them to express needs and emotions that may involve unpleasantness in other contexts, or to be honest and express emotions about personal matters that would be more difficult to discuss in person (King, 1996). Adolescents find themselves in a different world, without the limitations of the "real" world, in a place where embarrassment and shame are hidden and the intimacies of their internal life can emerge (Fiel, 2001).

Likewise, in this age group the attraction of the Internet increases because it makes possible a virtual relationship with friends and strangers and because the absence of non-verbal communication elements facilitates interaction and allows the concealment or masking of one's identity; this can result in a pleasurable and potentially exciting experience, relieving boredom, tension, depression and anxiety (Fiel, 2001). The Web also permits one to correspond with peers at any time in the 24-hour day, to make contact with people whom one would not have met in other circumstances, to keep in contact with friends at minimal cost, and to be noticed and appreciated (Castellana, Sánchez-Carbonell, Beranuy & Graner, 2006).

Adolescents' use of the Internet can become problematic when the number of hours they spend on it affects the proper development of their everyday life, causing drowsiness, mood alterations and reduction of time devoted to study and other obligations. As also occurs in the case of adults, they may become anxious or impatient due to the slowness of the connection or on being unable to contact a certain person and irritable in the case of an interrupted connection; moreover, they may find it difficult to drag themselves away from the screen (Echeburúa, 1999). The Internet-addicted adolescents interviewed by

Tsai and Lin (2003) showed compulsive use, withdrawal and tolerance symptoms and reported school-related, health, family, financial and time-management problems. Furthermore, the Internet is associated with greater psychological distress when the range of one's forms of entertainment and number of social relationships become reduced (Viñas, Juan, Villar & cols., 2002).

It should be borne in mind, though, that not all Internet applications have the same addictive capacity. Risk of Internet addiction in adolescence is directly related to the degree of social relation involved in each application, the nature of the relationship established with other internauts, the dimension to be explored, the extent of uncertainty involved, and the possibility of attaining a status that differentiates one from others (Sánchez-Carbonell & cols., in press). Other relevant factors include the nature of the interaction between the adolescent and the computer (Echeburúa, 1999; Griffiths, 2000) and the synchroneity of the response (practically in real time). For example, the role-play games referred to as Massively Multiplayer Online Games (MMOG) are highly addictive due to the high degree of communication, the type of interaction with the computer and the rapidity of response.

Excessive use of the Internet can become dangerous for adolescents. Table 1 sets out some ways in which schools and families can attempt to reorient the adolescent.

Adolescents and Mobile Phones

Adolescents have become the principal users of the various services offered by mobile phones, in which they are investing more and more time and money. For this generation, mobile phones are objects that have always existed, and this indeed makes them experts for choosing the context, place and time in which to use them.

We can find two sociological explanations for the success of the mobile phone among adolescents. On the one hand, Ling (2002) proposes a highly fertile concept according to which the acquisition of a mobile phone is considered as a "rite of passage"; like the traditional watch or pen given at the time of the first communion, the mobile phone is seen as an object of initiation to adolescence. On the other hand, Fortunati and Manganelli (2002) speak of "virtual brotherhood", a phenomenon based on a sense of fraternity that emerges among young people sharing feelings, emotions and ideas.

Whilst younger adolescents see the mobile phone as a

TABLE 1
PREVENTIVE MEASURES FOR IMPROVING INTERNET USE, BASED ON YOUNG (1999)

- ✔ Doing the opposite in Internet time: This technique consists in breaking the routine to adapt to a new timetable. For example, if the first thing the adolescent does on getting up in the morning is to check his/her e-mail, it might be suggested that they do it after breakfast.
- ✔ External switches: This involves using things that the adolescent must do or places he or she must go as signs indicating that it is time to disconnect. Possible aids for these natural alarms would be clocks or other devices with alarms that sound.
- ✔ Setting goals: In order to avoid relapses a realistic timetable can be drawn up that permits the adolescent to manage his/her time. A schedule of brief but frequent connections can be prepared. The fact of having a tangible timetable may bring about a sensation of control.
- ✔ Abstinence from a particular application: Once the application that is most problematic for the adolescent has been identified it should cease to be used. This does not mean they cannot use other Internet-related applications. For example, if the boy or girl's problem concerns chatrooms, these should no longer be visited, but there is no need for them to abstain from using e-mail or Web browsers.
- ✔ Using cue cards: We might suggest to the adolescent to make one list of the five main problems caused by Internet addiction and another of the five main benefits of being disconnected from the Internet or abstaining from using a certain application.
- ✔ Drawing up a personal inventory: We might suggest to the adolescent that he or she cultivates an alternative activity. They should draw up a personal inventory of the things they have ceased to do because of their addiction, subsequently classifying them as "very important", "important" or "not very important". They should be advised to pay special attention to the "very important" activities so that they realize what they have lost and they might like to recover.
- ✔ Educating them in the use of the Internet as a source of information and education: This involves incorporating Internet use in the adolescent's study methods, so that the Web becomes a communicative space associated with reflection and knowledge.
- ✔ Providing information about preventive tools and resources: There are a range of programs that can be installed on the computer to block access to potentially harmful content, to limit connection time or to record visited sites. The FireFox program has an application (pageaddict.com) that permits self-regulation of websites accessed and time spent on them.
- ✔ Talking about the Internet with the adolescent: Adults' assessments of adolescents' Internet use are mostly negative. Given these attitudes, adolescents keep their distance and try to avoid talking about these issues with adults. Such situations have a direct effect on adolescents' socialization process and leave them without adult reference points for considering the advantages and disadvantages of using these tools.
- ✔ Understanding excessive Internet use as a form of reaction to psychological unease or distress: This involves asking oneself why the adolescent focuses his or her leisure and peer-relation time on the Internet; it also means adopting an "active listening" attitude, despite their attempts at isolation.

form of games console, and an instrument of fun (Oksman & Rautiainen, 2002), older adolescents use it to organize and coordinate their lives (O'Keefe & Sulanowski, 1995). All types of use involve considerable financial cost, borne partially or totally by parents.

Mobile phones have a range of different meanings in the lives of adolescents. On the one hand, the mobile phone constitutes a natural and substantial part of their everyday life and is used for organizing their activities; moreover, it has become a means of forming social bonds and for defining one's own space in relation to others (Oksman & Rautiainen, 2002). But the mobile phone also plays a significant part in socialization because it permits adolescents to define their identity both individually, on the basis of personalizing the phone in terms of its form, colour, tones, etc., and collectively, through the creation of one's own group's language and practices related to texting and "missed calls". Mobile phones are used predominantly for making contact over short distances. Likewise, the mobile acts as a security barrier against parents, as they are unable to gain access to their child's phone (Lorente, 2002). In parallel to this, two reasons why parents might buy their children mobile phones are a need for control and as a means of reinforcing the bond with them (Kamibeppu & Sugiura, 2005).

According to Sánchez-Carbonell and cols. (in press), the reasons why mobile phones are so attractive for adolescents are many and various: a) it is a communication format that permits continuous and immediate contact with one's social relations network and the possibility of expanding it; b) time and privacy factors: the mobile is atemporal, permitting rapid contact at any time of the day or night, as well as "escape" from parental control; c) personal identity, since the degree of customization permitted by mobiles facilitates the creation of an identity through them; d) socialization, insofar as the mobile aids the process of emancipation from parents and is a status symbol among adolescents; e) instrumentality, as regards its use as an alarm clock, a watch, a sound/video recorder, an electronic diary, a games platform or a radio.

For adolescents, mobile phones have characteristics of use that are totally different from those relating to adults. According to Kasesniemi and Rautiainen (2001), essential activities in the adolescent mobile phone culture would include intensive use of text messages (SMS), missed calls and games, while Mante and Piris (2002) highlight the high percentage of conversations with friends and the strong need for personalization or customization.

Moreover, we can observe maladaptive behaviours in relation to mobile phone use that modify adolescents' everyday lives and are indicators of risk. According to Gándara and Álvarez (2004), risk becomes involved when users are incapable of detaching themselves from their mobile even in technically difficult situations and are constantly checking their battery or coverage; moreover, risk is associated not so much with the need to call as the need to feel constantly available to be called. We should bear in mind, in the case of adolescents, their vulnerability vis-à-vis the use of mobile phones, given that they do not yet have full control over their impulses, are more easily influenced by advertising campaigns and have accepted the mobile phone as a status symbol –a notion that can cause negative feelings and problems of self-esteem in those without a phone or who do not receive as many calls or text messages as their peers (Muñoz-Rivas & Agustín, 2005)

The concept of *mobile phone addiction* is a highly debatable one. Although there is no scientific literature with reliable data on its prevalence, symptomatology or clinical cases, the media insist on the addictive potential of mobiles and advertise clinics providing treatment for such addictions (Beranuy & Sánchez-Carbonell, in press). Indeed, there is much less literature on addiction to mobiles than there is on addiction to the Internet (Guardiola, Sánchez-Carbonell, Beranuy & Bellés, 2006). The mobile phone does not have the immediate reinforcing capacity of the Internet. Thus, in this case it might be more prudent to speak of maladaptive use rather than of an addictive pattern –a use that could be reduced in both adults and adolescents with an appropriate educational approach.

Symptoms arising from excessive and maladaptive use of mobile phones might include: inability to control or interrupt their use (Muñoz-Rivas & Agustín, 2005); maintaining the behaviour despite being aware of its negative effects; deception, lying and/or stealing from parents in order to renew phone credit, this being one of the most salient effects, and which causes most alarm in parents (Criado, 2005); breaking rules or laws on using

[1] Highly popular among adolescents are "goodnight" text messages, thus creating a virtual network of nocturnal friends that is activated when its members are alone, normally before going to bed or to sleep.

the mobile in inappropriate circumstances or in places where it is prohibited (Adès & Lejoyeux, 2003; Muñoz-Rivas & Agustín, 2005); side effects on health, above all in relation to sleep, due to involvement in nocturnal networks[1] (Muñoz-Rivas & Agustín, 2005); and problems in the social, family and school contexts, such as arriving late or replying to a text message while in the classroom (Muñoz-Rivas & Agustín, 2005).

Many adolescents cannot avoid breaking off from a face-to-face conversation when they receive a call or an SMS; this has an excessive impact on their social relations (Kamibeppu & Sugiura, 2005; Bianchi & Phillips, 2005), as they are observed to be more attentive to telephonic relations than to personal ones (Adès & Lejoyeux, 2003). This influences communication styles, and may indeed help to explain why younger users who spend a lot of time on their mobiles are often lost for words in face-to-face situations (Criado, 2005), or to understand the difficulties observed for adolescents to put their thoughts and feelings into conversations in which they are physically present (Castellana, 2005).

Finally, the mobile phone is not only a technical device but is also a personal and social object, subject like no other to the influences of fashion, and as regards its use in adolescence –a period so determinant for individual and group identity– it has become a veritable element of social revolution.

Table 2 offers some preventive guidelines to help adolescents in the appropriate use of mobile phones.

Adolescents and Videogames

Videogames represent a form of entertainment that is constantly growing, currently constituting a multi-million-dollar business. Millions the world over (mainly children and adolescents) play videogames in their different types and formats (Levis, 2002).

There are several reasons why adolescents play videogames (Castellana, Sánchez-Carbonell, Beranuy & Graner, 2006): they permit them to live out an adventure in the first person, implementing strategies in a virtual context without consequences in real life; they are an appropriate form of leisure pursuit for those with an interest in IT and new developments; they are comfortable to play, accessible and cheap, and can be played in groups or alone, at home or in games centres and cybercafés; they can raise self-esteem, self-confidence and the capacity for achievement or improvement; and they are emotionally stimulating in view of their intensity and demand for rapidity of decision and reflexes.

Videogames can be classified according to their theme (Rodríguez, 2002): platform games (Supermario BROS), simulators (GT2, Fly Fortress), sport (FIFA), sports strategy (PCFutbol), non-sports strategy (The Sims), shooter (Quake), combat (Mortal Kombat), adventure (Tomb Raider) and role-play (Final Fantasy). The youngest players (aged 7-11) prefer combat and adventure games, while older children and adolescents (11-18) choose games based on simulation, role-play and sport.

With regard to gender, it has been observed that the entry of girls into the world of electronic games does not have the same pace or intensity as those of boys (Pifarré & Rubiés, 1997). A higher percentage of boys than girls acquire videoconsoles. Boys appear to be more interested in these types of games, through which they can demonstrate their skills, imagination and competitiveness, while girls are more interested in other types of technology, such as mobile phones (Malo & cols., 2005) or e-mail

TABLE 2
PREVENTIVE MEASURES FOR IMPROVING MOBILE PHONE USE

Characteristics of adolescent mobile phone use	Preventive measures
High percentage of adolescents with own phones	Delay as much as possible the age at which children have their own phone
High percentage of pre-paid phone credit cards	Assume responsibility for the cost of calls, setting "weekly allowances", chores in exchange for credit, and so on, with a view to educating the adolescent in the concept of effort and reward.
Intensive use of games and SMS (texting)	Educate the adolescent in self-regulation of the desire for immediate pleasure and in tolerance of waiting. Reach an agreement on the phone model they obtain seeking a balance between what they need and their ideal or "dream" model.
Strong need for personalization/customization	Just having a mobile is not sufficient. Allow them to customize it within certain limits.
High percentage of conversation with friends	Discuss this issue so that they become aware of the time invested.
Restrictions on spaces for use	Adolescents should be aware of where they cannot use a mobile phone. It is adults who must impose the restrictions, respectfully and through dialogue, and who must act, if necessary, as a figure of authority.

chats (Figuer & cols., 2005). As far as specific type of game is concerned, boys prefer simulator, sports, sports strategy and combat games, whilst girls show a preference for games with a less marked gender connotation, such as The Sims (Pifarré & Rubiés, 1997).

According to Estallo (1995), adolescents start using videogames more frequently due to a novelty effect, and in the majority of cases the excessive behaviour will subside spontaneously or with the help of the family. Nevertheless, many young people report how during a period in their life videogames affected their school performance, brought about tension in the family and reduced their social circle. They admit having concealed from their family symptoms such as loss of control (playing longer than they intended), loss of the sense of time and obsession with a particular game.

Videogames have been criticized since they first appeared, and continue to be viewed with the same suspicion and concern as they were over twenty years ago. The review by Estallo (1995) suggested that the commonest criticisms in relation to their use in adolescence were: first, that the time spent on them was at the expense of time devoted to study or to more positive and educational leisure activities; second, that they can give rise to impulsive, aggressive and egoistic behaviour patterns in the most frequent users, especially when they have violent content; and third, that the addictive behaviour of such players inhibits the development of more constructive patterns of behaviour.

However, we should not overlook the arguments in favour of videogames: they entertain and amuse; they stimulate eye-hand coordination; they promote complex cognitive processes such as attention, visual perception, memory and information sequencing; they help the acquisition of strategies for 'learning to learn' in new contexts; they reinforce one's sense of mastery and personal control; they help reduce other problem behaviours; they can boost self-esteem; and they facilitate social relations between players (Estallo, 1995; Gee, 2004; Rodríguez, 2002). In Table 3 we propose some preventive measures.

TABLE 3
PREVENTIVE MEASURES IN RELATION TO THE USE OF VIDEOGAMES

- ✔ *Location*. Keeping the console or computer (like the television) in a common space facilitates interaction with parents and siblings, and makes it possible to observe in an informal way what the adolescents do when they are playing the games, which games they play, when they play and with whom they play.
- ✔ *Sharing*. Playing with them is a good way of participating in an activity that is motivating for them, sharing emotions, learning together and getting to know them better. Like walking in the mountains or travelling by car, it provides a good excuse for listening and for transmitting our point of view.
- ✔ *Duration*. Time devoted to videogames is usually measured in amount per day and per week. The total figure should also include time spent watching television and on the computer with non-educational motives. One hour a day would give an acceptable weekly total of seven hours. If videogame play is restricted to weekends, two hours each day or three hours on one day might be appropriate (not seven hours on the same day, for example). Individual playing time should be considered differently from group playing time.
- ✔ *Type of videogame*. Participate actively in the choice of videogames and reach an agreement in accordance with the family's values. Find out about the level of violence, and the minimum age and ability levels required. The criteria of specialist videogames magazines are neither educational nor ethical, but tend rather to be based on quality of the graphics, novelty and price.
- ✔ *Self-regulation*. The first step toward helping adolescents to self-regulate involves their becoming aware of the time they devote to these games. Talk to them and come to an agreement on the time to be spent, in the same way as agreements are reached in relation to other activities, such as studying and going out with friends.

CONCLUSIONS

The majority of popular knowledge about the Internet, mobile phones and videogames is based on the opinions reflected in the media, which all too frequently place the emphasis on hypothetical problems that are rarely corroborated by the findings of scientific research.

The degree of social alarm generated by abuse of ICT on the part of adolescents suggests a need for support to be given to research on how they use such technology, with the aim of preventing future problems related to its use and promoting healthy habits that will enable minors to interact with it in an appropriate way. In this regard, our preventive guidelines might serve as a good starting point. Finally, we should like to stress the need to define solid and proven diagnostic criteria in relation to addiction to the Internet, mobile phones and videogames that take into account the specific characteristics of each of these technologies.

ACKNOWLEDGEMENTS

This study was partially financed by the CER105C06/06-07 grant from the Blanquerna Faculty of Psychology and Education and Sports Sciences at the Ramon LLull University and by the Audiovisual Council of Catalonia.

REFERENCES

Adès, J. & Lejoyeux, M. (2003). *Las nuevas adicciones: Internet, sexo, deporte, compras, trabajo, dinero*. Barcelona: Kairós.

Alonso-Fernández, F. (2003). *Las nuevas adicciones*. Madrid: TEA.

American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders IV. Text Revision*. Washington: APA.

Beranuy, M. & Sánchez-Carbonell, X. (In press). El móvil en la sociedad de la comunicación. In A. Talarn (Ed.), *Psicopatología en la sociedad global*. Barcelona: Herder.

Bianchi, A. & Phillips, J. G. (2005). Psychological predictors of problem mobile phone use. *Cyberpsychology & Behavior, 8(1),* 39-51.

Black, D. W., Belsare, G. & Schlosser, S. (1999). Clinical features, psychiatric comorbidity, and health-related quality of life in persons reporting compulsive computer use behavior. *Journal of Clinical Psychiatry, 60*, 839-844.

Castellana, M. (2003). *La relació de l'adolescent amb les persones significatives*. Barcelona: p.a.u. education.

Castellana, M., Sánchez-Carbonell, X., Beranuy, M. & Graner,C. (2006). La relació de l' adolescent amb les TIC: Un tema de rellevància social. *Full Informatiu del Col·legi Oficial de Psicòlegs de Catalunya, 192*, 22-23.

Castellana, M. (2005). El adolescente & sus personas significativas. *ROL Enfermeria*, 28 (9), 18-29.

Chamarro, A. & Hernández, E. (2005). Nuevos estilos de vida en la sociedad red: una propuesta teórica enfocada a la intervención en salud. *Iberpsicología, 10*, 2- 15.

Charlton, J. P. (2002). A factor-analytic investigation of computer 'addiction' and engagement. *British Journal of Psychology, 93*, 329-344.

Criado, M. A. (2005). Enfermos del móvil. Consulted 30 November 2006 at: http://www.el-mundo.es/ariadna/2005/218/1106327395.html

Davis, R. A. (2001). A cognitive-behavioral model of pathological Internet use. *Computers in Human Behavior, 17*, 187-195.

de Gracia, M., Vigo, M., Fernández, J. & Marcó, M. (2002). Características conductuales del uso excesivo de Internet. *Revista de Psiquiatría de la Facultad de Medicina de Barcelona, 29(4),* 219-230.

de la Gándara, J. J. & Álvarez, M. T. (2004). Patologías emergentes en salud mental. ¿Modas, enfermedades o trastornos psicosociales? *Semergen, 30(1)*, 3-15.

Echeburúa, E. (1999). *¿Adicciones sin drogas?* Bilbao: Desclée de Brouwer.

Estallo, J. A. (1995). *Los videojuegos. Juicios y prejuicios*. Barcelona: Planeta.

Estallo, J. A. (2000). Usos & abusos de Internet. *Anuario de Psicología, 32*, 98-108.

Fiel, G. (2001). Los grupos de charla de Internet como objeto de adicción: caso IRC. Consulted 16 November 2006 at: www.ub.edu.ar/investigaciones/tesinas/3_fiel_martinez.htm

Figuer, C., González, M., Malo, S. & Casas, F. (2005). El món adolescent en l'entorn de l'ús de l'ordinador i Internet. *Perspectiva Escolar, 299*, 36-41.

Fortunati, L. & Magnanelli, A. M. (2002). El teléfono móvil de los jóvenes. *Estudios de Juventud, 57(2),* 59-78.

Fundació Catalana per a la Recerca. (2004). II estudio sobre los hábitos de uso de Internet entre jóvenes de 12 a 17 años. Día Internacional para una Internet Segura: Madrid, 6 de febrero de 2004.

Gee, J. P. (2004). *Lo que nos enseñan los videojuegos sobre el aprendizaje y el analfabetismo*. Málaga: Ediciones Aljibe & Enseñanza Abierta de Andalucía.

Greenfield, D. N. (1999). Psychological characteristics of compulsive internet use: a preliminary analysis. *Cyberpsychology & Behavior, 2(5),* 403-412.

Griffiths, M. D. (1997). Technological addictions: Looking to the future. Artículo presentado en la *105th Annual Convention of the American Psychological Association,* Chicago, Illinois.

Griffiths, M. (2000). Does Internet and computer "addiction" exist? Some case study evidence. *Cyberpsychology & Behavior, 3*, 211-218.

Grohol, J. (2005). More spin on "Internet addiction disorder". Consulted 16 November 2006 athttp://psychcentral.com/blog/archives/2005/04/16/internet-addiction-disorder/

Guardiola, E., Sánchez-Carbonell, X., Beranuy, M. & Bellés, A. (2006). ¿Qué se sabe de la adicción a las TIC? Un análisis a través de las bases de datos de bibliografía científica. In *10enes Jornades Catalanes d'Informació i Documentació*. Barcelona, 25-26 de mayo, 2006.

Johansson, A. & Götestam, K. G. (2004). Internet addiction: characteristics of a questionnaire and prevalence in Norwegian youth (12-18 years). *Scandinavian Journal of Psychology, 45*, 223-229.

Kandell, J. J. (1998). Internet addiction on campus: The vulnerability of college students. *Cyberpsychology & Behavior, 1*, 11-17.

Kasesniemi, E. & Rautiainen, P. (2001). *Mobile Culture of Children and Tennagers in Finland*. Cambridge: Cambridge University Press.

Kamibeppu, K. & Sugiura, H. (2005). Impact of the mobile phone on junior high-school students' friendships in the Tokyo metropolitan area. *Cyberpsychology & Behavior, 8(2),* 121-130.

King,S.A. (1996). Is the Internet Addictive, or Are Addicts

Using the Internet? Consulted 13 December 2006 at: http://webpages.charter.net/stormking/iad.html

Kubey, R. W., Lavin, M. J. & Barrows, J. R. (2001). Internet use and collegiate academic performance decrements: early findings. *Journal of Communication, 51*, 366-382.

LaRose, R., Lin, C., & Eastin, M. S. (2003). Unregulated Internet Usage: Addiction, Habit, or Deficient Self-Regulation? *Media Psychology, 5*, 225-253.

Levis, D. (2002). Videojuegos: cambios y permanencias. *Comunicación y pedagogía, 184*, 65-69.

Ling, R. (2002). Chicas adolescentes y jóvenes adultos varones: dos subculturas de teléfono móvil. *Estudios de Juventud, 57(2),* 33-46.

Lorente, S. (2002). Juventud y teléfonos móviles: Algo más que una moda. *Estudios de Juventud, 57(2),* 9-24.

Madrid, R. I. (2000).La Adicción a Internet. Psicología Online. Consulted 16 November 2006 at: http://www.psicologia-online.com/colaboradores/nacho/ainternet.htm

Mante, E.A., Piris, D. (2002). El uso de la mensajería móvil por los jóvenes en holanda. *Estudios de Juventud: 57(2),* 47-58.

Machargo, J., Luján, I., León, M. E., López, P. & Martín, M. A. (2003). Videojuegos por los adolescentes. *Anuario de Filosofia, Psicologia y Sociología, 6*, 159-172.

Malo, S., Figuer, C., González, M. & Casas, F. (2005). El telèfon mòbil: un ràpid canvi tecnològic i també de relació. *Perspectiva Escolar, 299*, 28-35.

Matute, H. (2003). *Adaptarse a Internet.* La Coruña: La Voz de Galicia.

Meerkerk, G., Van den Eijnden, R. & Garretsen, H. (2006). Predicting compulsive internet use: it's all about sex! *Cyberpsychology & Behavior, 9*, 95-103.

Morahan-Martin, J., Schumaker, P. (2000). Incidence and correlates of pathological Internet Use. *Computers in Human Behavior, 16(1),* 13-19.

Muñoz-Rivas, M., Navarro, M. E. & Ortega, N. (2003). Patrones de uso de Internet en población universitaria española. *Adicciones, 15(2),* 137-144.

Muñoz-Rivas, M .J. & Agustín, S. (2005). La adicción al teléfono móvil. *Psicología Conductual, 13(3),* 481-493.

Oksaman, V. & Rautiainen, P. (2002). Toda mi vida en la palma de mi mano: la comunicación móvil en la vida diaria de niños y adolescentes de Finlandia. *Estudios de Juventud, 57(2),* 25-32.

O'Keefe, G.J.; Sulanowski, B.K. (1995). More than just talk: Uses, gratifications, and the telephone. *Journalism & Mass Communication Quarterly, 72*, 922-933.

Pifarré, M., Rubiés, T. (1997). Nenes, nens i videojocs. *Perspecitva escolar, 220*, 67-75.

Rodríguez, E. (2002). *Jóvenes y videojuegos: espacio, significación y conflictos.* Madrid: Fundación de Ayuda contra la Drogadicción.

Saldaña, D. (2001). Nuevas tecnologías: nuevos instrumentos y nuevos espacios para la psicología. *Apuntes de Psicología, 19(1),* 5-10.

Sánchez-Carbonell, X., Castellana, M. & Beranuy, M. (in press). De los que padecen adicciones tecnológicas. In J. Riart (Ed.), *Tutoría y orientación en la diversidad.* (pp. 319-329). Madrid: Pirámide.

Sandoz, J. (2004). Internet Addiction. *Annals of the American Psychotherapy Association, 7*, 34.

Shapira, N. A., Goldsmith,T.D., Keck, E., Khosla, U.M. & McElroy, S.L. (2000). Psychiatrics features of individuals with problematic Internet use. *Journal of Affective Disorders, 57*, 267-272.

Shapira, N. A., Lessig, M. G., Goldsmith, T. D., Szabo, S. T., Lazoritz, M. & Gold, M. S. (2003). Problematic Internet Use: Proposed classification and diagnostic criteria. *Depression and Anxiety, 17*, 207-216.

Simkova, B. & Cincera, J. (2004). Internet Addiction Disorder and Chatting in the Czech Republic. *Cyberpsychology & Behavior, 7*, 536-539.

Suler, J. (2004). Computer and Cyberspace "Addiction". International *Journal of Applied Psychoanalytic Studies, 1*, 359-362.

Tsai, C. C. & Lin, C. (2003). Internet Addiction of Adolescents in Taiwan: An Interview Study. *Cyberpsychology & Behavior, 6*, 649-656.

Viñas, F., Juan, J., Villar, E., Caparrós, B., Pérez., I. & Cornellà, M. (2002). Internet y psicopatología: las nuevas formas de comunicación y su relación con diferentes índices de psicopatología. *Clínica y salud, 13*, 235-256.

Washton, A. M. & Boundy, D. (1991). *Querer no es poder: Cómo comprender y superar las adicciones.* Barcelona: Paidós.

World Health Organization (1992). *The ICD-10 Classification of Mental and Behavioural Disorders.* Geneva: O.M.S.

Wieland, D.M. (2005). Computer Addiction: Implications for nursing psychotherapy practice. *Perspectives in Psychiatric Care, 41(4),* 153-161.

Young, K.S. (1999). Internet addiction: symptoms, evaluation and treatment. In L. VandeCreek & T. Jackson (Ed.), *Innovations in Clinical Practice: A source book.* Sarasota, FL: Professional Resource Press.

Young, K. (1998). Internet Addiction: The emergence of as new clinical disorder. *Cyberpsychology & Behavior, 1(3),* 237-244.

Papeles del Psicólogo, 2007. Vol. 28(3), pp. 205-210
http://www.cop.es/papeles

ASSESSING PSYCHOLOGICAL INJURY IN MOTOR VEHICLE INSURANCE COMPENSATION CLAIMS: VALIDATING A CUSTOMIZED PROTOCOL

Ramón Arce* and Francisca Fariña**
**Department of Social and Basic Psychology and Methodology. University of Santiago de Compostela.*
***Departamento AIPSE, University of Vigo*

The Spanish legislation on Civil Responsibility and Motor Vehicle Insurance (Ley 30/1995) of 8 November 1995 introduced the provisions whereby plaintiffs sustaining psychological injury in a traffic accident are eligible for compensation. As the plaintiff must provide evidence of the nature and degree of psychological injuries sustained in order to claim compensation, psychologists are now required to undertake three main tasks: identify and determine the psychological injury, estimate the degree of deterioration in psychological health, and detect the feigning or exaggeration of psychological injury. Hence, a scientifically validated and customized protocol for the assessment of psychological injury and the detection of feigning or malingering in motor vehicle insurance compensation claims has been designed. This paper describes the protocol and examines a case study of psychological injury assessment using the said protocol.
Key words: *Psychological injury, feigning, motor vehicle accident, compensation, post-traumatic stress disorder.*

La valoración del daño psíquico consecuencia de un accidente de tráfico fue introducido, a través de lo que denominan daño moral, como un elemento de tasación en la Ley 30/1995, del 8 de noviembre, Ley de Responsabilidad Civil y Seguro en la Circulación de Vehículos a Motor. Esto supone que la parte demandante ha de demostrar no sólo el daño sino también tasarlo en términos porcentuales. En consecuencia, a los peritos psicólogos se nos demanda la resolución de tres tareas: identificación y medida del daño psíquico, cómputo del porcentaje de deterioro en la salud psíquica del accidentado y control de la simulación o sobresimulación. Para la realización de estas tareas hemos construido y validado científicamente y en la Sala de Justicia un protocolo de medida, de cuantificación del daño y de control de la simulación. En esta contribución se presenta dicho protocolo así como un ejemplo de pericia basado en éste.
Palabras clave: *Daño moral, daño psíquico, simulación, accidente de tráfico con vehículos a motor, trastorno de estrés postraumático.*

Traffic accidents are one of the commonest causes of death in our society. Recent figures for road deaths were 3643 in 2004, 4084 in 2003, 4031 in 2002 and 4170 in 2001. But behind this figure for deaths is another, no less important, for those who sustained injuries. In 2004 this was 138,383 and the previous year 150,635, while in 2002 it was 146,917 and in 2001 it was 149,599 (Source: *Direction General de Tráfico*). In sum, the annual total of deaths is around 4000, and that of injured over 145,000. In the wake of each death or injury is irreparable harm, compensation for which is covered by the legislation on Civil Responsibility and Motor Vehicle Insurance (*Ley 30/1995*, of 8 November; revised text approved by Royal Decree 8/2004, of 29 October). The damages or harm liable for compensation are material, physical and psychological, the last of these being referred to as *psychological injury*.

Correspondence: Francisca Fariña. *Departamento AIPSE. Universidad de Vigo. E-mail: uforense@usc.es*

All injury, in order to be legally considered as such, must be demonstrated. In the psychological context, the National Comorbidity Survey (e.g., Bryant & Harvey, 1995) has identified Post-traumatic Stress Disorder (PTSD) as the primary indication of psychological injury, and as indirect consequences in traffic accident cases, depression and dysthymia (Blanchard & Hickling, 2004). Thus, PTSD must be diagnosed as the direct outcome in the forensic psychological examination, so that where no PTSD is found it cannot be concluded that there is psychological injury, insofar as its co-occurrence with depression or dysthymia must be understood as a confirmation of injury, while if no depression or dysthymia is diagnosed it cannot be inferred that no injury has occurred. In turn, given that this is a medico-legal context, malingering must be considered as a hypothesis (American Psychiatric Association, 2002). The assessment of psychological injury in conjunction with a decision on potential malingering requires a multimethod approach (Rogers, 1997). For measurement within the Spanish legal system,

such a multimethod approach involves assessment using two task formats: recognition and knowledge (Arce, Pampillón & Fariña, 2002). In the recognition task (thus called because the plaintiffs under assessment must recognize whether or not they have the symptom presented to them) the measurement instrument usually applied in forensic practice is the MMPI (Butcher & Miller, 1999), which fulfils the two basic objectives of the forensic psychological examination: the assessment of direct and indirect injury and the measurement of malingering through scales for checking the protocol validity. As regards the knowledge task format (whereby plaintiffs perform a task in which they must report symptoms they have without these being presented to them), this is implemented through the so-called clinical-forensic interview (Arce & Fariña, 2001).

The structure of this interview, which must be carried out by a trained interviewer with psychopathological expertise, is based on the following steps: 1) presentation of the interview, its objective and its procedure; 2) asking interviewees to report in their own words the symptoms, behaviours and thoughts they have at present, compared to their state prior to the accident (GFS of the DSM-IV-TR); 3) re-establishment of contexts: if interviewees do not respond on their own initiative, they will also be asked to provide information about their family relations (GARF of the DSM-IV-TR); social relations (SOFAS of the DSM-IV-TR) and work relations (SOFAS); 4) construction of a table of symptoms (DSM-IV-TR) and symptom count [symptom detection takes place using two complementary methods: direct report from the interviewee, and coders' observations on analyzing the protocols, i.e., behaviour observation and registration]; 5) fitting the symptoms to disorders [in our case, PTSD, depression and dysthymia]; and 6) reliability check through the study of malingering strategies.

ASSESSMENT IN A KNOWLEDGE TASK: OF OBVIOUS AND SUBTLE SYMPTOMS AND MALINGERING STRATEGIES

Analysis of the content of 105 clinical-forensic interviews with malingerers in road accident psychological injury cases (Arce, Fariña, Carballall & Novo, 2006) revealed that 3.8% of interviewees were capable of feigning Post-traumatic Stress Disorder, and that certain types of symptom were highly accessible to malingering, whilst others were more inaccessible. The kinds of symptoms most inaccessible to malingering, that is, the subtler ones ($p \leq .05$) were those of thought-avoidance, amnesia, hypervigilance and exaggerated startle responses. On the other hand, symptoms accessible to the feigning of PTSD –obvious ones– included: intense fear responses; recurring memories; unpleasant dreams; behaviours or feelings appearing as though the event was happening again (flashbacks); intense psychological distress when exposed to internal or external stimuli symbolizing or recalling some aspect of the traumatic event; physiological responses; avoidance of activities, places or people that bring back memories of the trauma; sharp reduction in interest or participation in significant activities; distancing from others; affective restriction; dreariness about the future; sleeping problems; irritability/anger attacks; concentration difficulties; significant deterioration as a result of the accident in the areas of work, social life, family relationships and partner relationship; and finally, significant clinical distress. In sum, the set of accessible symptoms would permit feigning of a condition characteristic of PTSD, but the combination of all these symptoms in a single interview was only achieved in 3.8% of cases.

The study of the internal consistency of the content of the clinical-forensic interviews with the 105 malingerers through malingering strategies identified 76.2% as unreliable protocols. Specifically, the strategies most commonly employed by the malingerers (frequency >.05) were those of "obvious symptoms" (.229), that is, symptoms of a psychotic nature, $Z(105)=8.4$; $p<.001$; "subtle symptoms" (.667), i.e., they reported not real symptoms but everyday problems, $Z(105)=28.97$; $p<.001$; "rare symptoms" (.105), i.e., symptoms rarely found even in psychiatric population, $Z(105)=2.58$; $p<.05$; and "severity of symptoms" (.200), involving the attribution of extreme severity to the reported symptoms, $Z(105)=7.04$; $p<.001$.

ASSESSMENT IN A RECOGNITION TASK

The same 105 persons underwent an assessment of feigning of psychological injury with the MMPI-2, which involves a recognition task, 60.9% succeeding in feigning (T>70) psychological injury characteristic of a road accident in both the direct (Ps and Pk scales) and indirect (depression) measures. The relevant instruments for the malingering measure did not correctly classify all the malingerers (the ? Scale classified none; the F Scale, 59.9%; the K Scale, 78.1%; the Gough Index, 55.2%; and the "Inverted V" profile, 23.81%). Analysis of the task

overall reveals that 24.76% of the malingerers would have executed the task perfectly in this measure, that is, they had feigned perfectly the expected injury and would not have been consistently detected by the malingering indicators. By way of a complement, we found neither ag K≥70, characteristic of simulation, among participants for the malingering task, nor invalidity of the protocol due to non-response (≥30).

MULTIMETHOD APPROACH: KNOWLEDGE AND RECOGNITION TASKS

In order to be able to determine the existence of psychological injury there is a need, from both the psychological and legal points of view, for an "injury measure". Starting out from this maxim, we observed that in the knowledge measure only around 4% of malingerers were capable of achieving their goal; that is, the remaining malingerers did not succeed in feigning effectively. In the effective malingerers we found a lack of inter-measure consistency (in the psychometric measure they had also feigned other clinical injuries in the psychotic triad, and even psychopathic deviation, which did not appear in the interview). Moreover, these malingerers were detected as such by both the measures of internal consistency of the interview (i.e., malingering strategies) and the psychometric instrument (K, F, F-K, Inverted V Profile). Specifically, no less than 6 of these indicators suggested malingering.

PROTOCOL FOR THE MEASUREMENT OF PSYCHOLOGICAL INJURY AND DETECTION OF MALINGERING, BY ARCE & FARINA

In the light of the above results some criteria can be established for making the decision about the authenticity or feigning of psychological injury. These criteria can be grouped into positive and negative.

a) Positive criteria. Those criteria associated with non-malingering, so that the observation of them validates the protocol. Positive criteria are the registration of subtle symptoms in the clinical-forensic interview and a K≥70 in the MMPI. Invalidity of the MMPI due to non-response is not considered a positive criterion (this possibility can only be considered in the case of neurological damage that justifies such a response style).

b) Negative criteria. Our results indicate a series of negative criteria, that is, which annul or reduce the validity of the protocol. These are: 1) no observation in the MMPI/SCL-90-R or clinical-forensic interview of symptoms characteristic of psychological injury resulting from a road accident; 2) the validity check scales and their combinations detect malingering; 3) detection of some malingering strategy in the interview; and 4) lack of inter-measure agreement. The first criterion is eliminatory, that is, if the psychological injury is not measurable it cannot be sustained legally (take special note of the clinical-forensic interview, in which just 4% of malingerers achieve their objective). If we find the psychological injury symptoms characteristic of a traffic accident in the clinical-forensic interview, malingering will only be concluded if numerous indicators of invalidity are observed.

On the basis of the results and their discussion we can derive the following validated procedural protocol for the assessment of psychological injury in road accident cases (forensic psychologists who are so interested may obtain from the authors an expert assessment format based on it):

a) Psychosocial interview, behaviour observation and registration, and study of the documentary evidence.

b) Study of cognitive capacities. It is necessary to evaluate the cognitive capacities of the person under assessment in order to establish whether he or she is competent to undergo the psychological assessment and to give evidence. If reasonable signs of deterioration in neuropsychological functions are observed, a neuropsychological examination will be required. For this it is recommended to begin with a non-verbal measure such as TONI-2 (Brown, Sherbenou & Johnsen, 1995) and, given the slightest sign of deterioration, to continue with the Wechsler scales. The confirmation of significant differences between the verbal and performance scales is a reliable indicator of brain lesion (a performance coefficient 10 or more above the verbal coefficient indicates relevant lesion). In this case it is necessary to proceed to a neuropsychological examination to identify which areas show deterioration (and how much) and which do not [it is advisable to use the relevant subscales of the Test Barcelona (Peña-Casanova, 1990) or the ERFC/Rapid Evaluation of Cognitive Function (Gil, 1999)].

c) Measurement of clinical effects related to involvement in a traffic accident. Clinical assessment is carried out using two instruments that require the performance of

different tasks: the clinical-forensic interview, which involves a knowledge task, and the MMPI-2, which involves a recognition task. Also recommended is the application of other psychometric instruments, such as the SCL-90-R (Derogatis, 2002). In all cases, measures for checking the protocol validity are necessary (in the SCL-90-R these are the global severity index, the distress index referring to positive symptoms and the total positive symptoms index, which permit an estimation of potential malingering), and the dimensions measured must include PTSD and/or secondary effects of a road accident. This second measure permits the testing of not only the protocol validity (a single invalidity indicator is not a sufficient test), but also the inter-measure consistency. In those cases in which the clinical assessment does not confirm a clinical state deriving from the direct consequences (PTSD) of involvement in a road accident, that is, the predictive validity (or accuracy with which the measurement fits the expected psychological injury) is tested, it must be concluded that there is no psychological injury. Secondary effects, depression or dysthymia, are not sufficient proof on their own. Analysis of effects, by means of predictive validity, can be integrated with the study of discriminant validity, that is, unexpected injury.

d) Personality study. It is recommended to carry out a personality assessment in order to reveal possible anomalies at the same time as testing for possible distortions in responses. For this purpose it is advisable to use the 16 PF-5, which includes three measures of response style: Social Desirability, Infrequency and Acquiescence. According to our findings a single invalidity indicator cannot be considered sufficient for doubting the validity of the protocol, but rather as a characteristic of the examinee's personality.

e) Study of the reliability of the measurements. It is always important to guarantee the reliability of the measurement of the issue or person under assessment, and especially in cases such as those that concern us here. Even though the measurement instruments may be reliable and valid, it cannot be inferred that the specific measurement is so. In order to test the reliability of the measurement made for the expert assessment it is necessary to estimate (Weick, 1975):

- ✔ Inter-measure consistency. Lack of inter-measure consistency (e.g., discrepancy between what is reported and observed, identification of a pathology in one measure without indicators of it in other measures) will be considered a sufficient factor for invalidating the results.
- ✔ Intra-measure consistency. The measurement instruments, the clinical-forensic interview, MMPI-2 and, where applicable, SCL-90-R, include protocol validity checks. In order to consider invalid a protocol in which psychological injury has been consistently observed, numerous indicators of malingering are required. A protocol with consistent inter-measure indication of psychological injury with only a few intra-measure indications of possible malingering will not lead to a conclusion of malingering; rather, these will be attributed to the person's response style.
- ✔ Inter-assessor consistency. Two assessors interpret the results separately, and only consider the results to be reliable and valid if the inter-assessor agreement index is above 0.801 (Tversky, 1977).
- ✔ Inter-context consistency. Inter-context reliability is dealt with through recourse to a trained assessor who has been effective and consistent in previous expert assessments and with other assessors.

f) Evaluation of psychological injury. If the data are reliable, that is, if the malingering hypothesis is rejected, and psychological injury (PTSD) is found in the person assessed, a multiaxial assessment (DSM-IV-TR, 2002) takes place:

I. Axis I. This will necessarily include, in the case of psychological injury, PTSD, as primary diagnosis, and as secondary disorders only depression/dysthymia.

II. Axis II. This is not applicable unless there has been neurological injury.

III. Axis III. Physical injuries (always supported by documentary evidence, unless indicated that this is not applicable).

IV. Axis IV. Psychosocial and environmental problems.

V. Axis V. Global assessment of functioning. Here, injury is quantified in percentages. For this, the Global Functioning Scale (GFS) is used. The steps to follow for the quantification are:

AI = agreement / (agreement + disagreement)

1) Beginning with the highest level, the examinee's state is compared with the normative one; if the state is poorer, the process continues at the next level down.
2) The same procedure is repeated until reaching the level at which the examinee's state fits.
3) The next level down is checked to make sure that it does not correspond to the examinee's state.
4) The examinee's level of psychological functioning is set (it is recommended to take the mid-point of the range).
5) The difference is calculated between the observed state and the average value of normality (90), the resulting figure giving the percentage of psychological injury caused.

g) Additionally, it is recommended to repeat this procedure with the SOFAS and GARF assessment scales.

h) In this eventuality or when there is also physical injury, i.e., there are multiple consequences of the accident, the calculation of the final rating should be carried out using the following formula:

$$\frac{[100-M]\bullet m}{100}+M$$, where M=Highest score; m=Lowest score

i) The rating system should be restricted to the following categories: "probable malingerer or with systematic indication of malingering"; "probable non-malingerer or without systematic indication of malingering". It is important to use these probabilistic terms. Though the Supreme Court demands total certainty, not high probability, it should be acknowledged that, as seen in the present study, our assessment systems and measures are subject to error, so that the establishment of certainty should be avoided (e.g., Supreme Court sentence of 29 October 1981, RA 3902). Finally, if the forensic psychologist cannot come to a decision on malingering, the conclusion must be one of "no decision on malingering", since opting for "probable non-malingerer" or "probable malingerer" involves, *de facto*, a decision in favour of one of the parties in the lawsuit, without conclusive supporting evidence.

ACKNOWLEDGEMENTS

The work reported here was financed by the General Secretariat for Research and Development of the Galician regional government (Xunta de Galicia), through the research grant: *Proyecto de Excelencia Investigadora Código* PGIDIT03CS037401PR.

REFERENCES

American Psychiatric Association, (2002). *Manual diagnóstico y estadístico de los trastornos mentales* (IV Edición-Texto Revisado). Barcelona: Masson.

Arce, R., Carballal, A., Fariña, F. & Seijo D. (2004). Can mock battered women malinger psychological evidence in a recognition task? In A. Czerederecka, T. Jaskiewic-Obydzinska, R. Roesch y J. Wójcikiewicz (eds.), *Forensic psychology and law. Facing the challenges of a changing world* (pp. 327-336) Cracovia: Institute of Forensic Research Publishers.

Arce, R. & Fariña, F. (2001). *Construcción y validación de un procedimiento basado en una tarea de conocimiento para la medida de la huella psíquica en víctimas de delitos: La entrevista clínico-forense*. Manuscrito Inédito, Universidad de Santiago de Compostela.

Arce, R., Fariña, F., Carballal, A. & Novo, M. (2006). Evaluación del daño moral en accidentes de tráfico: Desarrollo y validación de un protocolo para la detección de la simulación. *Psicothema*, 18(2), 278-283.

Arce, R., Pampillón, M.C. & Fariña, F. (2002). Desarrollo y evaluación de un procedimiento empírico para la detección de la simulación de enajenación mental en el contexto legal. *Anuario de Psicología*, 33(3), 385-408.

Blanchard, E. B. & Hickling, H. J. (2004). What are the psychosocial effects of MVAs on survivors? In E. B. Blanchard, E. J. Hickling (Eds.), *After the crash: Psychological assessment and treatment of survivors of motor vehicle accidents* (2ª ed., pp. 57-97). Washington, DC: American Psychological Association.

Brown, L., Sherbenou, R. & Johnsen, S. (1995). *Toni-2*. Madrid: TEA Ediciones.

Bryant, R. A. & Harvey, A. G. (1995). Avoidant coping style and posttraumatic stress following motor vehicle accidents. *Behaviour Research Review*, 15, 721-738.

Butcher J.N. & Miller, K.B. (1999). Personality assessment in personal injury litigation. In A.K. Hess e I.B. Weiner (Eds.), *The handbook of forensic psychology* (2ª Ed., pp. 104-126). Nueva York: John Wiley and Sons.

Carballal, A., Arce, R., Carrera, O. & Novo, M. (2003). De la simulación de daño moral en casos de accidente de tráfico. *Psiquiatría.com*, 1-13 [Documento WWW]. URL: http://www.psiquiatria.com

Derogatis, L. R. (2002). *SCL-90-R. Manual*. Madrid: TEA Ediciones.

Dirección General de Tráfico (2006, junio). Estadísticas DGT. [Documento WWW]. URL: http://www.dgt.es/estadisticas/accidentes.htm).

Fariña, F., Arce, R. & Novo, M. (2004). How to detect the malingering of insanity to avoid criminal responsibility. En R. Abrunhosa (Ed.), *Victims and offenders. Chapters on psychology and law* (pp. 229-241). Bruselas: Uitgeverij Politeia NV.

Gil, R. (1999). *Neuropsicología*. Barcelona: Masson.

Peña-Casanova, J. (1990). *Programa integrado de exploración neuropsicológica. Test Barcelona*. Barcelona: Masson.

Rogers, R. (1997b). Current status of clinical methods. En R. Rogers (Ed.), *Clinical assessment of malingering and deception* (pp. 373-397). Nueva York: Guilford Press.

Tversky, A. (1977). Features of similarity. P*sychological Review*, 84, 327-352.

Weick, K. E. (1985). Systematic observational methods. In G. Lindzey y E. Aronson (eds.), *The handbook of social psychology bulletin* (vol. 1, pp. 567-634). Hilldsale, N.J.: LEA.

Wechsler, D. (1976). *WAIS: Escala de inteligencia para adultos* (2ª ed.). Manual. Madrid: TEA Ediciones.

Papeles del Psicólogo, 2007. Vol. 28(3), pp. 211-217
http://www.cop.es/papeles

DEVELOPMENT OF ATTENTIONAL PROCESSES BY MEANS OF "ADAPTED ACTIVITIES"

Luis Álvarez, Paloma González-Castro, José Carlos Núñez, Julio Antonio González-Pienda, David Álvarez and Ana Bernardo
University of Oviedo

Teachers in general, and particularly, teachers involved in certain educational stages (primary education and compulsory secondary education) express considerable concern about attentional problems. Indeed, the current high frequency of learning problems is due mainly to attentional deficits that are specific to students with learning difficulties (LD), or to attentional problems typical of students with ADHD (attention deficit disorder with or without hyperactivity). Either one of these problems will condition the onset and maintenance of any learning process, since they affect stimulus processing and the quantity and quality of concentration. Therefore, in the school setting, and especially in the compulsory stages, teachers should administer activities that promote attention, both selective and sustained. This work proposes a specific form of presenting such activities to students using activity banks, whose tasks are arranged according to difficulty and students' age and educational level, in a similar way to those of item banks.
Key words: *selective attention, sustained attention, attentional problems, activity banks*

Los problemas atencionales preocupan al profesorado, en general & especialmente al de algunas etapas educativas (educación primaria & educación secundaria obligatoria). De hecho, hoy en día son muy frecuentes los problemas de aprendizaje debidos, principalmente, a déficits atencionales específicos de estudiantes con dificultades de aprendizaje (DA) o a problemas de atención propios de los alumnos con TDA-H (trastorno por déficit de atención con o sin hiperactividad). Cualquiera de estos problemas condicionan el inicio & mantenimiento de cualquier proceso de aprendizaje porque afectan al procesamiento estimular & a la cantidad & calidad de la concentración. Por este motivo, en el contexto escolar, sobre todo en las etapas obligatorias, el profesorado debería aplicar actividades que potenciasen la atención, tanto selectiva como sostenida. En este trabajo se presenta un modo o forma concreta de presentar tales actividades a los estudiantes a partir de bancos de actividades, cuyas tareas, al igual que en los bancos de Ítems, están graduadas por dificultad, edad & nivel educativo.
Palabras clave: *Atención selectiva, atención sostenida, problemas de atención, bancos de actividades.*

Attention is the mechanism directly involved in the active reception of information, from the point of view of both its recognition and the control of psychological activity (García, 1997). Hence, it is a capacity that teachers must take into account if students are to learn effectively (Álvarez, González-Castro, Núñez, González-Pienda, Álvarez & Bernardo, 2007). But for attentional mechanisms to be set in motion and enhanced, and for students to be able to regulate them, they need to use certain procedures, related to so-called attentional strategies, whose educational importance has been clear since it was shown that they can be modified and improved through practice.

In this context it is important to bear in mind that attention is not something that functions independently, but is rather related to processes, of both a cognitive and motivational nature. This aspect is fundamental, since, as various authors point out (Roselló, 1997; Tudela, 1992), attention acts as a connection mechanism that articulates cognitive and affective processes, all of which are involved in determining which stimuli will be given priority for analysis and which will not. This evolution of attentional processing models toward those of a neoconnexionist type was initially influenced by *limited resource models* (Kahneman, 1973), for which attention would depend not only on the subject's disposition to pay attention, but also on the demands of the task in question. Manoeuvring these two aspects is crucial to an inclusive educational system, as such a system needs to develop adaptive models that take careful account of diversity (Álvarez, Soler, González-Pienda, Núñez & González-Castro, 2002).

However, the limitation of attentional capacity is not assumed as an absolute concept by advocates of

Correspondence: Luis Alvarez. *Facultad de Psicología. Universidad de Oviedo. Plaza Feijóo, s/n. 33003 Oviedo. España.*
E-mail: lalvarez@uniovi.es

activation models, given that attention, as an active and constructive mechanism, is modified with practice, each person generating their own attentional potential. Such potential will be determined not only by cognitive elements, but also by conative and affective ones, whose interaction is described in the first neoconnexionist model of attention (Phaf, Van der Heijden & Hudson, 1990), the "Slam" model, which demonstrates changes in attentional capacity through continued practice. These changes in explanatory models of attention have considerable implications for processes of both selective attention and sustained attention.

Selective attention

Selective attention involves the ability to discriminate stimuli within sets or groups, and thus to be able to recognize them and process them with the minimum of error. This process begins with a spatial selection phase, which is followed by a phase based on the characteristics of the object (Vázquez, Vaquero, Cardoso & Gómez, 2001). Indeed, the two phases can coexist, given that, as demonstrated by various authors using the visual evoked potentials technique, the P1 and N1 potentials can be modulated both by attention based on the stimulus field (Méndez, Ponce, Jiménez & Sanpedro, 2001) and by attention based on specific stimuli (Valdés-Sosa, Bobes, Rodríguez & Pinilla, 1998). Hence, selective attention will be conditioned by certain visual abilities studied in depth from *functional* (or *behavioural*) *optometry*, which evolved from initially *quantitative* postures in which the most important element was visual acuity (independently of the stimulus context) to more *qualitative* currents which now take into account both the subject's needs and the task characteristics. In this regard, a visual system adapted to the subject's needs should focus on the study of binocular vision, which permits the perception of a common visual direction for the two eyes, a sensation of depth, good spatial judgement, perception of a single image and superposition of visual fields.

The visual abilities necessary for developing binocular vision with these characteristics are abilities related to control and abilities related to the recognition of information. *Visual abilities of control* involve ocular motility in general and saccadic and convergence movement in particular. *Saccadic* movement is precise eye movement from one point to another, and is highly conditioned by the visual field. *Convergence* is the capacity for moving the eyes towards the nasal area without losing fusion (Daum, 1984). There are several types of convergence, among which can be distinguished: tonic, proximal, accommodative and fusional convergence (Goss, 1995; Morgan, 1983). Tonic Convergence represents the physiological position: the evaluation of the phoria with correction measured at a distance is taken as the value of this position. Proximal Convergence is the convergence that occurs after the approach of a specific stimulus. Accommodative Convergence occurs with a change in accommodation as part of the close synkinesis of accommodation, convergence and pupillary constriction (Moses, 1987). Finally, Fusional Convergence is the convergence necessary for maintaining a fused image of a fixated object.

Visual abilities of recognition, on the other hand, involve fixation and binocular control. *Fixation* is the stimulation of the retinal cells situated in the fovea, when the visual axis is centred on a point and the central retina is checking the information. Fixation must, therefore, be centred on the fovea and, moreover, stable and precise. But although fixation is under voluntary control, its conscious and deliberate control is rather infrequent. It is governed by the same rules as the formation of units, so that there occur at the points of maximum information colour contrasts and brightness and shapes of objects. MacWorth and Morandi (1967) discovered that the most informative areas are identified very early, and are those with the greatest number of fixations. A fixation often takes place as a result of information acquired previously via peripheral vision. In fixations, three types of region can be distinguished: stationary field, ocular field and head field. The stationary field is that in which all the information is analyzed without the need for tracking. The ocular field is that which is opened up through eye movements. In this field the subject has the option of directing an ocular fixation on an unverified observation and verifying his or her hypothesis through a movement of the eyes. This movement depends on the instructions and the costs associated with the stimulus and on its nature. Finally, the head field is the visual field in which, to obtain verified information, it is necessary to move not only the eyes but also the head. For obtaining information in the ocular and head fields one must make decisions rapidly and with little reflection. Thus, it is important to stress that this phase of reception of visual stimuli is a key one in reading, but not a sufficient one, insofar as binocular control is also necessary. *Binocular control* is

the subject's capacity for maintaining fusion, fixating at short distances, when accommodation and convergence demands are high. In reading, the convergence or fixation point is constant, but the accommodation varies significantly between the acts of locating (peripheral retina saccade) and fixating (central retina). It is known that accommodation involves a degree of convergence induced by the functioning of the sympathetic nervous system. This convergence must be compensated by the binocular capacity which, moreover, is conditioned by the position of the visual axes or phoria. Therefore, if in addition to a convergent position of the visual axes there is accommodative convergence, binocular control has to invest great effort to achieve fusion. Such fusion is attained by means of fusional vergences, which have the capacity to converge and diverge so as to maintain retinal correspondence (stimulation of two points of each retina analyzed by the same hypercolumn).

Therefore, so that selective attention can be applied in the best conditions possible and develop its full potential, it is necessary to stimulate, on the one hand, the visual abilities of control (saccadic and convergence) and, on the other, the visual abilities of recognition (fixation and binocular control). In order to generalize the effects of such stimulation in the school context, stimulus identification and recognition abilities need to be dealt with through specific tasks, which can be carried out in the classroom by means of activity banks.

Sustained attention

Sustained attention, for its part, is more related to the capacity for concentration, and tends to be strongly conditioned by attention deficit with or without hyperactivity. This deficit, especially in cases of ADHD (Attention Deficit Hyperactivity Disorder), is a congenital problem that affects the general population, mainly males, and can emerge at any age, though the DSM-IV does not diagnose it until after age six (Barbero, 2005). It has considerable detrimental effects on the personal, family and, above all, school contexts. Students with problems of sustained attention tend to have difficulty learning to read (between 25% and 40%, according to Willcutt and Pennington, 2000) and with mathematics (between 24% and 60%, according to Barkley, 1998). Such difficulties cannot usually be overcome with pharmacological treatment alone, due to defects in the functioning of the executive and vigilance networks (Merrell & Tymms, 2001; Roselló, 2002).

The *executive attentional network* is made up of the anterior cingulate cortex (closely associated with the resolution of conflicts between stimuli, coordination of two tasks, detection of errors and attention to language), the superior supplementary motor area (Posner & Petersen, 1990) and parts of the basal ganglia, which provide dopamine to the frontal lobes (Duncan & Owen, 2000). The executive network is responsible for voluntary control of working memory and for the selection and detection of target stimuli (Posner & Dehaene, 1994). It is activated in response to tasks that require the emission of new responses, in situations of interference or awareness of having committed an error, and in planned actions (Posner & DiGirolamo, 1998).

The *vigilance network*, on the other hand, is more related to the degree of disposition the subject needs for performing a task. This disposition depends on the arousal level, related to the action of different neural systems, such as the ascending reticular arousal system of the brain stem, the ascending noradrenergic pathways, the right frontal cortex, the cingulate gyrus and the corpus callosum (Parasuraman, Warm & See, 1998). Arousal levels vary according to the task (May, 1999), and can be controlled independently of it or through specific actions. Initial control, independent of the task, is closely related to global attentional capacity, which correlates strongly with brain metabolism and blood supply (Toomin, 2002). Control based on performance, on the other hand, can be carried out using CPTs (of the TOVA type), vigilance tasks such as the Children Sustained Attention Task (CSAT; Servera & Llabrés, 2004) or observation scales (Conners, 1997; Swanson, 2003; Miranda, García & Soriano, 2005; Amador, Forns, Guardia, Peró, 2006). However, from the academic perspective this control should also take into account some indicators specific to activity in the school context, such as stimulus recognition, strategic content management, continuous effort and adaptation to the context; hence, treatment with drugs, while it helps, is not considered sufficient (Barkley, 1992; Lubar, 1993) for promoting academic improvement: also necessary are activities that enhance the effects of the treatment, so that teachers, and above all parents and the students themselves, can sense reinforcement through the new results obtained.

Activity banks

Activity banks, like item banks, are sets of tasks graded according to degree of difficulty and prospective

respondents' age and educational level. They are customarily developed on the basis of the following considerations:

a) The exercises proposed in the banks tend to have a medium level of difficulty, which can be increased or reduced according to the abilities and needs of the target students.
b) Many exercises are accompanied by variants that can act as a basis for new activities.
c) With the aim of maintaining students' interest without tiring them out, the exercises are presented in a sequence. The sequence can be increased or reduced according to individual circumstances.
d) It is advisable to mark the activities carried out. This marking can be done by the teacher or, with the appropriate support, by students themselves, individually or in groups.

BOX 1
DESCRIPTION OF THE CONTENT OF FILES OF THE ACTIVITY BANKS FOR TRAINING SELECTIVE ATTENTION

1st File: *Identify stimuli within sets.*
1st Folder: Recognize letters, figures, symbols or drawings.
2nd Folder: Recognize letters to form words, figures to form numbers, symbols and other graphic elements to form illustrations, etc.
3rd Folder: Locate the occasions on which an element is repeated (word, number, geometric figure, symbol, drawing, etc.) in a set.
4th Folder: Choose, among various disordered elements (syllables, endings, words, numbers, geometric figures, symbols, drawings, etc.), those that appear in a given model.

2nd File: *Compare stimuli within sets.*
1st Folder: Recognize words, numbers and other elements with a given characteristic.
2nd Folder: Identify words, numbers and other elements that are similar or different within the same set.
3rd Folder: Locate elements that are repeated or missing in two or more independent sets.
4th Folder: Find the differences or similarities between drawings.

3rd File: *Identify stimuli within a series.*
1st Folder: Continue series of letters, numbers, symbols, drawings, etc., after being given the first elements.
2nd Folder: In a succession of elements, identify all those that belong or not to the series, or constitute errors.
3rd Folder: Substitute elements in a succession.
4th Folder: Choose elements to complete words, numbers or figures.

4º File: *Recognize stimuli on a map or in space.*
1st Folder: Join up points following instructions.
2nd Folder: Fill in gaps following instructions.
3rd Folder: Draw lines or itineraries following instructions.
4th Folder: Construct puzzles with letters, numbers or figures.

5th File: *Recognize words or phrases that meet a series of stipulated conditions.*
1st Folder: Locate words synonymous with those given.
2nd Folder: Give antonyms for known words.
3rd Folder: Identify objects, words, main ideas, important details, etc., following some instructions.
4th Folder: Recognize the meaning of phrases, sayings, proverbs, fables, etc.

The starting point for all activity banks are the guideline or indicators for each area of the bank. Each one of them will give rise to a varied and almost indefinite number of exercises for training each learning process. These exercises will consist of a base, some instructions and some variants. The *base* is made up of the elements, the data, and so on, provided, and with which the activity is to be carried out. The instructions are indications given to the students about what they have to do and how they should perform the activities. The *variants* are guidelines intended to facilitate the drawing up of similar exercises and, thus, the enlargement of the activity bank. Variants can be of three types: statement, content or exercise. The *statement variant* refers to when, on the same base as the original exercise, the instructions to the exercise are changed: for example, a different element is crossed out in the same task. The *content variant* refers to when the structure of the original exercise is maintained but its constituent elements are changed: for example, numbers instead of letters. Finally, the *exercise variant* refers to when, within the same training area, exercises with different bases and different instructions are proposed. In turn, exercises may have *multiple-possibility* formats (several tasks starting out from a common base) or may introduce progressive exercises (from a sample, multiple activities in the same style can be developed).

The majority of the exercises can be modified or regulated to convert them from difficult to easy or from easy to difficult. Thus, when it is suspected that one of the tasks proposed might prove difficult, given the students' low educational level, certain resources can be used to decrease the level of difficulty; aids can be employed or the type of task can be modified. Aids can consist in doing a few examples first, to give respondents an idea before presenting them with similar exercises, or in giving the answers to the exercises that will be expected to cause difficulties. Another form of providing aids is by changing the task type to a simpler one. Possible suggestions for lowering the difficulty level would include converting the exercise format into a *simple pairing task* or a *multiple-choice task*.

Suggestions for increasing the degree of difficulty of an exercise would include removing intermediate questions to arrive at the final result, giving the data in different units of measurement, reducing the size of the stimuli and their distance apart, increasing the number of stimuli, removing examples, or removing some steps in the application process.

Structure of the selective attention activity bank

All of the above recommendations should be taken into account if groups of adapted activities are to be designed. In the case of selective attention, in order to create a bank it is recommended to construct five files, each with four folders that develop them. This can be represented graphically as shown in Figure 1.

Files would bear the following headings:

1st File: *Identify stimuli within sets.*
2nd File: *Compare stimuli within sets.*
3rd File: *Identify stimuli within series.*
4th File: *Recognize stimuli on a map or in space.*
5th File: *Recognize words or phrases that meet a series of stipulated conditions.*

And the four folders shown in Box 1 would be included in each file.

The bank, with its files and folders, can be employed by the psychological guidance department or the assessment board; if used in a partial manner, it can also be applied with relevant age groups within the normal curriculum. Once in place, teachers at the school can add more activities in each corresponding folder and file. The creation of activity banks in schools helps, on the one hand, teachers' motivation to apply activities they themselves have created and, on the other, coordination between class teachers or tutors and the guidance department, since the educational psychologist, in his/her reports, can make recommendations based on the tasks in the bank. Furthermore, apart from the possibility of developing an original activity bank at each school, teachers can use some programs already created based on this philosophy (Álvarez & González-Castro, 2004).

BOX 2
DESCRIPTION OF THE CONTENT OF FILES OF THE ACTIVITY BANKS FOR TRAINING SUSTAINED ATTENTION

1st File: *Reproduce totally or partially similar or opposite models to those given.*
1st Folder: Copy or trace drawings (identical or symmetrical) with some accuracy.
2nd Folder: Draw models that are partially similar to or different from those given.
3rd Folder: Construct or complete diverse models using the elements (verbal, numerical or graphic) of which they are made up.

2nd File: *Mentally retain elements or models in order to reproduce them or relate them to others.*
1st Folder: Faithfully reproduce a model previously seen and memorized.
2nd Folder: Locate elements in new sets, comparing them with others previously memorized.
3rd Folder: Pair off elements the same as others previously seen and retained in the memory.

3rd File: *Place in a certain order the elements of a known set.*
1st Folder: Put in order sets of diverse elements according to certain criteria.
2nd Folder: Put in sequence the steps of a known process so as to be able to apply it.
3rd Folder: Establish operations for obtaining some results.

4th File: *Establish relationships between elements in accordance with certain conditions.*
1st Folder: Attribute properties to elements in isolation or in comparison with others.
2nd Folder: Locate concepts related or not to those given according to certain conditions.
3rd Folder: Establish classifications of given elements on the basis of various criteria.

Structure of the sustained attention activity bank

As in the case of selective attention, in order to build a sustained attention activity bank it is advised to use four files, each with three folders that develop them (see Figure 2).

Files would bear the following headings:

1st File: *Reproduce totally or partially similar or opposite models to those given.*

FIGURE 1
GRAPHIC REPRESENTATION OF AN ACTIVITY BANK FOR TRAINING SELECTIVE ATTENTION

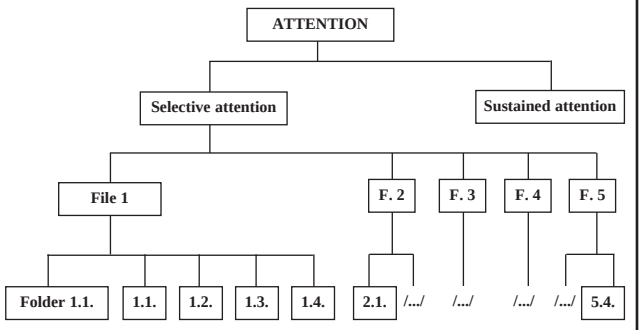
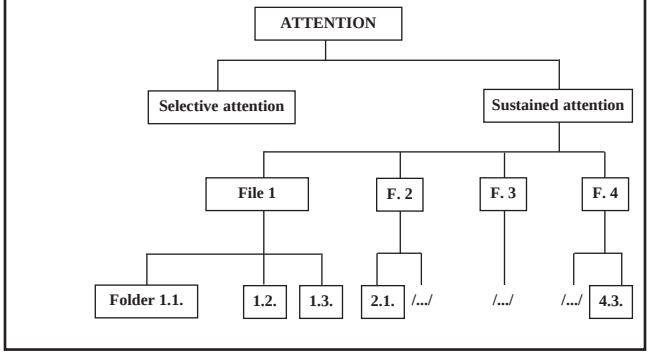


FIGURE 2
GRAPHIC REPRESENTATION OF AN ACTIVITY BANK FOR TRAINING SUSTAINED ATTENTION



2nd File: *Mentally retain elements or models in order to reproduce them or relate them to others.*
3rd File: *Place in a certain order the elements of a known set.*
4th File: *Establish relationships between elements in accordance with certain conditions.*

And the four folders shown in Box 2 would be included in each file.

The activities for the banks can also be developed in computer language with "Clic" (clic.xtec.net/es/index.htm). This program was created for Windows 3.1 and is available in seven languages. Its development began in 1992, and since then it has been used to create thousands of activities addressing a range of educational fields and levels. Clic served as the basis for producing the CD *¡Fíjate & concéntrate más!* ("Pay attention and concentrate harder!"), by Álvarez, González-Castro, Redondo and Busquets (2004), on which the files become objectives with the aim of making the program more understandable for users. Each objective is achieved by completing a set of activities with an 80% success rate, which permits the user to move on to the next objective. Although the number of activities for each objective is finite in the program, it is possible to create new activities if this is fe lt appropriate.

With the structure of the activity banks proposed, teaching staff will be able to generate their own materials, and thus to develop banks adapted to their particular context.

ACKNOWLEDGEMENTS

The data and resources mentioned in this article were produced with financing from the Spanish Ministry of Science and Technology, Project *I+D+I, MCyT-02-BSO-00364.*

REFERENCES

Álvarez, L. & González-Castro, P. (2004*). ¡Fíjate y Concéntrate más!..para que atiendas mejor*. Nivel 1, 2, 3 and 4. Madrid: CEPE.

Álvarez, L., González-Castro, P., Redondo, J. J. & Busquets, F. (2004*). ¡Fíjate y Concéntrate más!..para que atiendas mejor*. CD 1, 2, 3 and 4. Madrid: CEPE.

Álvarez, L., Soler, E., González-Pienda, J. A., Núñez, J. C. & González-Castro, P. (Coods.) (2002). *Diversidad con Calidad. Programación Flexible*. Madrid: CCS.

Alvarez, L., González-Castro, P., Núñez, J. C., González-Pienda, J. A., Alvarez, D. & Bernardo, A. (2007). Programa de intervención multimodal para la mejora de los deficits de atención. *Psicothema, 19, 590-595.*

Amador, J. A., Forns, M., Guardia, J. & Pero, M. (2006). Estructura factorial y datos descriptivos del perfil de atención y del cuestionario TDAH para niños en edad escolar. *Psicothema 18, 4,* 696-703.

Barbero, P. (2005). *Actualización de las bases neurobiológicas del TDAH. Últimas investigaciones*. Valencia. I Congreso Nacional de TDAH.

Barkley, R. A. (1992). Is EEG biofeedback treatment effective for ADHD children? *Ch.A.D.D. er Box, 5-11.*

Barkley, R. A., (1998). *Attention-deficit hyperactivity disorder: A handbook for diagnosis and treatment*. New York: The Guilford Press.

Conners, C. K. (1997). *Conners Rating Scales-Revised*. Yoronto, Ontario: Multi-Health Systems.

Daum, K. (1984). Convergence Insufficiency. *American Journal Physiologic Optometric, 61*, 16-22.

Duncan, J. & Owen, A. M. (2000). Common regions of the human frontal lobe recruited by diverse cognitive demands. *Trends in Neuroscience, 23*, 475-482.

García, J. (1997). *Psicología de la atención*. Madrid: Síntesis.

Goss, D. (1995). *Ocular Accommodation, Convergence and Fixation Disparity. A manual of clinical analysis*. Boston: Butterworth-Heinemann.

Kahneman, D. (1973). *Attention and Effort*. Englewood Cliffs, NJ: Prentice-Hall.

Lubar, J. F. (1993). Innovation or inquisition: The struggle for ascent in the court of science. *Neurofeedback and ADHD. Biofeedback, 21,* 23-30.

Macworth, N. H. & Morandi, A. J. (1967). The gaze selects informative details within pictures. *Perception and Psychophysics, 2,* 547-552.

May, C. P. (1999). Synchrony effects in cognition: The costs and a benefit. *Psychonomic Bulletin & Review, 6*, 142-147.

Méndez, C., Ponce, D., Jiménez, L. & Sampedro, M. (Eds.) (2001). *La atención (Vol. II): Un enfoque pluridisciplinar*. Valencia: Promolibro.

Merrell, C. & Tymms, P. B. (2001). Inattention, hyperactivity and impulsiveness: Their impact on academic achievement and progress. *British Journal of Educational Psychology, 71*, 43-56.

Miranda, A., García, R. & Soriano, M. (2005). Habilidades narrativas de los niños con trastorno por déficit de atención hiperactividad. *Psicothema, 17 (2),* 227-232.

Morgan, M. W. (1983). The Maddox analysis of vergences. In C. M. Schor & K. J. Ciuffreda (Eds.), *Vergence Eye Movenents: Basic and clinical Aspects* (pp. 15-21). Boston, MA: Butterwoth-Heinemann.

Moses, R. A. (1987). Accommodation. In R. A. Moses & W. M. Hart (Eds.), *Adler's Physiology of the Eye*, 8th ed. (pp. 291-310). St Louis. MO: Mosby.

Parasuraman, R., Warm, J. S. & See, J. E. (1998). Brain systems of vigilance. In R. Parasuraman (Ed.), *The Attentive Brain* (pp. 221-256). Cambridge, MA: The MIT Press.

Posner, M. I. & Petersen, S. E. (1990). The attention system of the human brain. *Annual Review of Neuroscience, 13*, 25-42.

Posner, M. I. & Dehaene, S. (1994). Attentional networks. *Trends in Neuroscience, 17*, 75-79.

Posner, M. I. & DiGirolamo, G. J. (1998). Executive attention. Conflict, target detection and cognitive control. In R. Parasuraman (Ed.), *The attentive brain* (pp. 401-423). Cambridge, MA: MIT Press.

Phaf, R. H., Van der Heijden, A. H. C. & Hudson, P. T. (1990). SLAM: A connectionist model for attention in visual selection tasks. *Cognitive Psychology, 22*, 273-341.

Roselló, J. (1997). *Psicología de la atención. Introducción al estudio del mecanismo atencional*. Madrid: Psicología Pirámide.

Roselló, J. (2002). *Subtipos de trastornos por déficit de atención con hiperactividad. Manifestaciones, correlatos y efectos del metilfenidato*. Tesis Doctoral publicada en microfichas. Universidad de Valencia. Servicio de Publicaciones de la U.V.

Servera, M. & Llabrés, J. (2004). *CSAT: Tarea de atención sostenida en la infancia*. Madrid: TEA.

Swanson, J. M. (2003). SNAP-IV Teacher and Parent Rating Scale. In A. Fine & R. Kotkin (Eds), *Therapist guide to learning and attention disorders* (pp487-500). Nueva York: academic Press.

Toomin, H. (2002). Neurofeedback with hemoencephalography. *Explore for the professional*, 11 (2), 19-21.

Tudela, P. (1992). Atención. En J. Mayor & J. L. Pinillos, (Eds.), *Tratado de Psicología General. Vol. 3, Atención y Percepción*, 119-162. Madrid: Alhambra.

Valdés-Sosa, M., Bobes, M. A., Rodríguez, V. & Pinilla, T. (1998). Switching attention without shifting the spotlight: Object-based attentional modulation of brain potentials. *Journal of Cognitive Neuroscience, 10*, 137-151.

Vázquez, M., Vaquero, E., Cardoso, M. J. & Gómez, C. (2001). Atención basada en el espacio *versus* atención basada en el objeto: Un estudio psicofisiológico. In C. Méndez, D. Ponce, L. Jiménez & M. J. Sampedro (Eds.), *La atención (Vol. II): Un enfoque pluridisciplinar* (pp. 91-102). Valencia: Promolibro.

Willcutt, E. G. & Pennington, B. F. (2000). Comorbidity of reading disabilities and attention-deficit/hyperactivity disorder: Diferences by gender and subtypes. *Behavior Research Therapy, 31 (7)*, 701-710.